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BY

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Too many I's
And maybe we's
But that's what comes
With things like these.
H.J.M.

THINGS I REMEMBER

by

Hector John MacLeod

After retiring from the British Columbia Power Commission some two years ago, I put together bits and pieces of our family record that I had been collecting for a long time. It is mostly a genealogical record, going back a few generations to families in Scotland, who later emigrated to Prince Edward Island. In general there is very little about the people themselves or the kind of life they lived. Perhaps, for most of their lives, they were too busy getting established in a new land to write much more than brief notations of births, marriages and deaths in their family Bibles. But, no doubt, when life's work was nearly done and they sat in the old rocking chair by the farmhouse kitchen stove, they often thought of their own childhood and later life and of the many changes they had seen. But no record of these things has come down to us.

I have reached this stage in life but the rocking chair has been replaced by the Chesterfield and the farmhouse by a city apartment, both of which are questionable improvements. Also I have been requested to write down some of the things that I remember from the many experiences of a fairly long life. These recollections then are for our immediate family and would be of little interest to others.

Church records of the parish of Durness, Sutherlandshire, in the north of Scotland, show that John MacLeod of Island Hall married Mary MacPherson on December 8, 1789. In 1805, John MacLeod with his wife and family emigrated to Prince Edward Island and settled in St. Peters. Four years later he bought 600 acres of land, in New London, which he and his family began clearing and part of which became known as the Cove farm, Park Corner.

John MacLeod and his wife, Mary MacPherson, were my great grandparents.

There is a story in the family that when John MacLeod was buying the land, an attempt was made to have the price include some days of work a year on the old feudal system. At this suggestion he banged his fist down on the table and said: "Never! That is why I left Scotland". The land was bought with no strings attached.

The following article from the writings of Malcolm A. McQueen, author of "Skye Pioneers" appeared in the Charlottetown Guardian (in the early 1930's I believe). It throws further light on the character of John MacLeod and his family and will serve as background for "Things I Remember".

"Among the many Scottish families who have won distinction for themselves and enriched the life of their adopted country, the MacLeods of Park Corner, Prince Edward Island, stand in the front rank.

"For two generations Henry Collingwood MacLeod, one of the talented

sons of that family, held a unique position in banking, a calling that makes the most critical demands on the ability and, perhaps to even a greater extent, on the character and integrity of those whom it promotes to the highest seats in its uncertain temple of fame. To every test Mr. MacLeod proved equal. His fight for banking reform made him enemies among those representing interests at variance with his policies, but it was enough that he felt he was right. Mr. MacLeod lived to see the policies he advocated with such vigor, adopted in their entirety. When he retired he was the acknowledged leader in Canada of the banking fraternity - a leadership won primarily by sound judgment fortified by a courage possessed by few in any age - and left a monument in one of the soundest financial institutions in the world.

"As the name indicates the family came from the Highlands of Scotland. The gentility, the warmheartedness, the flaming love for knowledge, the integrity, the thrift, all those qualities that are so characteristic of the Scot distinguished the MacLeods.

"In the early years of the nineteenth century certain landlords in their eagerness to increase their rents repudiated old leases and evicted tenants who had tilled the land for generations. Sutherlandshire seems to have been the worst sufferer and the North West corner of that country, a place of romantic beauty in which the MacLeod family resided, bore a full share of the fury of these heartless landlords. These iniquitous "clearances", as they were called, were the means of driving thousands of the most law abiding and industrious tenantry in Europe to seek homes in other lands. It was during this unsettled period that the MacLeods emigrated to P.E.I.

"In the Parish of Durness, Sutherlandshire, near Assynt, a mountainous district of rare beauty, lived one of those austere, highly intelligent, well-educated Scots, John MacLeod, and his wife Mary Macpherson. They decided to abandon their ancestral home and cast their lot with those courageous friends who were setting out for the New World to tempt fortune in surroundings more congenial to the liberty loving Highlander.

"In 1805 they embarked on the brig "Polly", a ship that two years earlier had carried about 400 settlers to Belfast (P.E.I.) They were accompanied by their five surviving children, Isabel, Hugh, Christian, Donald and Andrew. A daughter named Jennie was born at sea on the way out. The family settled first at St. Peters and here in 1809 was born a son John. After a few years spent at this place, the family moved to the beautiful New London district and settled at what is now known as Park Corner.

"Of the children born to John MacLeod, Sr. and his wife, Isabel married Mr. Mackenzie. The late George Mackenzie, French River, was a son.

Hugh died about 1865 and is buried at Yankee Hill, New London.

Christian married Mr. Mackay. The late George Mackay was her son.

Donald married Amelia Mackay. One of their sons was the late John D. MacLeod, well known in Charlottetown as a successful grocer and business man.

Andrew married Catherine MacIntyre. Their son John married Sophia Sims, daughter of John Sims of New London Harbor. Their son John Andrew MacLeod is General Manager and Vice-President of the Bank of Nova Scotia, as well as being identified with many other great Canadian institutions. It is no exaggeration to say that in addition to his recognized ability as banker and

financier Mr. MacLeod, owing to his unusual qualities of mind and heart, possesses to a degree rarely, if ever, surpassed, the love and devotion of those who work under him and also the esteem of the wide circle of friends whose great privilege it is to know him.

Jennie, the daughter born at sea, died in Iowa.

John, the youngest member of the family, and only one born on P.E. Island, married Annabella Mackay, from near Stanley Bridge. They had eight sons and four daughters. One of the sons was the famous banker Henry Collingwood MacLeod. Another was William A. MacLeod, who married Mary Luiza Beirsto of Malpique, whose mother was a sister of the late Hon. Peter MacNutt. For many years he was Western Superintendent of the Postal Service with headquarters in Winnipeg. He died a few years ago leaving surviving his widow, two daughters, one the wife of Mr. Justice Richards of the Appeal Court, and the other, wife of Athol McBean, wealthy Grain Merchant, also two sons Roland MacNutt of Winnipeg, Merchant, and Evelyn Collingwood, Manager of the Bank of Nova Scotia, London, England. A. Cuthbert MacLeod of Park Corner, another brother, died a few years ago.

N.D. MacLeod, a son of H.C. MacLeod, true to the family tradition, is engaged in banking and is today Manager of the Bank of Nova Scotia in St. Catharines, Ontario."

Donald MacLeod (my grandfather), the second son of John MacLeod, Sr., married Amelia Harriet Mackay, who was born in 1808. Her father, John Mackay, died in Scotland and her mother, Ann Calder Mackay, with her family emigrated to P.E. Island in 1815. The reason for the move was that John Mackay's brother, Captain Donald Mackay, was then a shipbuilder and merchant in Charlottetown. He had been an officer in the British Army for many years. In January, 1826, he sailed for England in one of his ships (with a cargo of lumber) with Captain MacLain and his wife and crew. The ship was wrecked on St. Pauls Island where Donald Mackay and the others landed out they all perished during the winter. There was no lighthouse on St. Pauls Island then.

Donald MacLeod, with the help of his father, bought 150 acres of land for a farm in French River only a mile or two from the Cove farm. He and his wife Amelia Harriet raised a family of five boys and two girls. In 1850 Donald MacLeod died in his 37th year of what was later believed to have been appendicitis. The French River farm was left to his wife and family. Their youngest child, Benjamin (called Ben), was only ten years old at the time. When he grew up he took charge of the farm as all his brothers had left home by then, - John Donald (called JD), went to Charlottetown and the others to the Western States.

Ben MacLeod married Emily Sims and they had four children, Amelia Harriet, Daniel Fenwick, Heath Fulton and John Donald. Their mother died of tuberculosis in 1883 at the early age of 33 years. The children's two aunts took care of them and of the new house which had been built a short time before.

In 1886 Ben MacLeod married Catherine Fraser Morrison, a school teacher in the district and a daughter of John Morrison and his wife, Elizabeth Smith, of Belfast, P.E.I. Ben and Catherine MacLeod were my parents. I was born on May 6, 1887, my brother, Horace Brenton, on August 16, 1888, and my younger brother, Ernest Lloyd on December 23, 1890. I was named Hector John after my mother's eldest brother.

Before my father and mother were married, he and his brother, JD,

made an agreement about the farm. J.D. had a store on a corner of Queens and Grafton Streets in Charlottetown, known as J.D. MacLeod and Company, Wholesale and Retail Groceries and the location was for many years referred to as J.D.'s Corner. The store had a branch at Stanley Bridge with a house attached. By the agreement, J.D. moved his mother and two sisters to this house and assumed responsibility for them. In return my father gave him a mortgage for \$3000 at 6% per annum and obtained title to the farm in which previously he had only a share.

This French River farm was my first home. I remember it as a beautiful place. Its northern end bordered on French River which is mostly a tidal inlet from New London Bay. The house and farm buildings were sheltered by a fine grove of spruce trees to the west and there was an orchard to the east. The east-west main road crossed the farm some distance to the south of the buildings. There was a maple grove on the south side of this road and the usual lot of spruce and hardwood trees across the south end of the farm. On a sunny day in summer, the red soil of ploughed fields, the shades of green of grain fields and trees, with the sparkling blue of the river, the bay and the Gulf of St. Lawrence combined to form a scene of surpassing beauty. Even today, "they flash upon that inward eye which is the bliss of solitude".

The red soil of the Island gets its color from the red sandstone. The farms are divided into fairly small fields with, in many places, a line of trees along the fences. Thus the countryside has the appearance of a many-colored patchwork quilt.

Our house on the farm had a front door facing east with windows on either side. Four rooms opened on the center hall. On the left side was the parlor and then the dining room. On the right, opposite the parlor, was the sitting room and then a bedroom. An open stairway with a mahogany banister led up to the second floor hall and bedrooms. The lower hall went through the house to a large kitchen which formed an extension to the main house, the whole being in the form of the letter T. There was a room above the kitchen and the kitchen door faced south. It was one of the finest houses in the community and to my young eyes seemed larger than it really was.

The farm buildings were some distance south of the house and arranged on three sides of the farm yard. The barn was by far the largest building. The central part housed the threshing machine and the grain crusher. These could be connected by means of a long leather belt to the treadmill which was powered by two horses. There was also room to drive in a large load of hay or grain. The hay was hoisted to the loft above the horse stable and the sheaves of grain were stored above the cattle or stacked near the barn to be threshed during the winter.

There was a 60 foot well on the side of the yard nearest the house. The water from this well was cold and crystal clear. When my grandfather, Donald MacLeod, was digging this well about 1840, he found the jawbone of an extinct animal some twenty feet below the surface and buried nine feet in red sandstone. News of the discovery spread and a young geologist from Nova Scotia by the name of William Dawson gave grandfather 20 pounds sterling for it. (William Dawson later became the well known geologist, Sir William Dawson, Principal of McGill University, the man who made McGill outstanding in science, engineering and medicine.)

Some years later, Dawson sold the fossil to an American scientist and

and it was presented to The Academy of Natural Sciences of Philadelphia. It is described in the Journal of the Academy of Natural Sciences, 2nd Series, Vol. 2, Article 31. The title of the article is "Bathygnathus Borealis, an Extinct Saurian of the New Red Sandstone of Prince Edward Island" by Joseph Leidy, M.D. A picture of the fossil is shown in Plate 33, page 327.

The fossil, which has seven large teeth, was the first animal fossil to be discovered in red sandstone up to that time. It consists of the right dental bone and teeth and is "remarkable for its great depth in relation to its length" according to Dr. Leidy. The depth of the dental bone is five inches, while its length appears to have been not more than seven and one quarter inches. The crown of the largest tooth is an inch and three quarters across. It is unfortunate that this rare fossil from a long extinct type of reptile was ever allowed to leave Canada.

The Orr farm marched with ours on the west side, as they say in Scotland. Nathan Orr, his sister and his mother (generally known as Grandma Orr) lived nearest to us and his brother, James, with his large family, lived on the part of the farm across the main road. On the other side of our farm were the Cole and Adams families and further along the road the Geddie Memorial Presbyterian Church of New London North and beside it Spring Brook School. In the cemetery of the church are the names of some hundred MacLeods who have "finished the course". All these places gradually came within our ken.

During the last year that the French River farm was our home, my brother Brent and I went to Spring Brook School under the guidance at first of the Orr twins, Fanny and Maggie. There were about 35 pupils in the one room school and the atmosphere was pleasant. John Campbell, by far the oldest, let it be known that no bullies would be tolerated. He was later a C.P.R. conductor in Vancouver. More than a dozen of these pupils left the Island, mostly for Western Canada. Thus began my formal school education.

Perhaps the things one remembers best from early childhood are the unusual events. I was quite young when Grandma Orr died. I remember being lifted up to see her in her coffin and meeting the mystery of death for the first time and sensing the atmosphere of sorrow without understanding much about it.

I remember too the deep roar of waves breaking on the North Shore in a storm and next morning Nathan Orr coming in to tell of the wreck of a New Brunswick fishing boat with the fishermen drowned in the cabin. Fishermen often tried to outride a storm with fatal results. There ^{are} also vague recollections of a big black dog that jumped in through the window of the room where Brent and I were sleeping. Probably quite friendly, but he was a terror by night for sometime and the window could never be left high enough for him to get in again.

But on the whole, early childhood was a carefree time and often a happy one. In spite of steady work (and lots of it for the grown-ups), we were not conscious of any great rush and visitors were fairly frequent.

The interest on the mortgage was a lot of extra money for the farm to raise every year and there was little hope of ever paying off the mortgage itself. Also Dad (and Mother) had some of John MacLeod Senior's spirit of independence. So they sold the farm to Uncle John and bought one near Kensington. It was only about half as large but it was paid for in full. Uncle John made the French River farm a home for his mother and sisters again. Heath

stayed to manage it for him and Hattie, who had been working in the Stanley Bridge store, joined them. After we moved to Kensington Brent and I spent many happy summer holidays there.

The Kensington farm was about three-quarters of a mile west of Kensington on the road to Summerside. Again the farmhouse faced south with a fine grove of spruce trees to the north and west of it. There was a small field between the house and the road and an orchard to the west of this field. The P.E. Island railway ran parallel to the road on the far side from the house. The whistle of steam engines and the sounds of two trains a day were new to us. The morning train going west to Summerside coasted down a slight incline in the track, while the evening train to Charlottetown had to puff its way up the incline. As I remember we accepted the change of homes without much concern. This farm was our home for ten years.

We soon became acquainted with our neighbors, William Walker and family, to the west of us with the farmhouses not far apart. The family were Ella, Lawson, Ethel and Scott. The last two were twins about two years older than I. They were a fine family. Scott taught school in the west for a time, later studied law and became Mayor of North Battleford.

John Eines and family were our neighbors on the other side. They had three boys with ages roughly corresponding to ours. The youngest became a medical doctor and practised in Alberta. After school opened, we got to know most of the children in Kensington and the district. As the years went by, we became more conscious of the larger world around us.

In the closing years of the nineteenth century, the British Empire was at its prime and unsurpassed in wealth and power. Britain's navy ruled the seas and her far-flung Dominions felt secure. She had a genius for compromise and a sense of decency and fair play. If little of her material wealth flowed to Island farmers, they were comparatively free from the world tensions of today.

In those days life on an Island farm was in many ways much simpler than it is today. But there was more work to do and often harder work. The labor-saving farm machinery which was being developed in the States and Canada took some time to find its way to the Island. Though as far back as I can remember, Dad had a mower and horse-drawn hay rake, a grain seeder and a binder. But sowing grain by hand, cutting it with a scythe and binding the sheaves by hand were common when we were on the French River farm. Even at Kensington very few of the neighbors had binders and Dad often cut grain for them in return for help on his farm. I learned how to bind sheaves by hand with the band made from a little of the sheaf itself. It came in handy when the binder line broke or failed to knot properly.

There were few labor-saving devices in the house. The cleaning instruments were still a broom, a dust-pan and a scrubbing brush. The washing machine was a wooden affair in which the moving part was in the form of a half-cylinder which had to be rocked back and forth by hand. With a wringer, it was an improvement on the old washboard which it did not entirely replace.

Soap for washing clothes and floors was made at home. In French River the potash or alkali for making soap from fats was obtained by leaching the hard wood ashes from the stove which was saved in barrels during the

winter. Later the stores supplied concentrated lye. A set of three irons with a detachable handle was used for ironing clothes. They were heated on the kitchen stove and a brisk fire was required even on a hot summer day.

The first kitchen stove I remember was a Yarmouth stove. In front a door could be opened revealing the warm glow of the fire in the grate. The oven was above the back of the stove in the form of a double cylinder with a door at each end and was heated by the hot gases on their way to the stove-pipe and chimney. About 1900, this stove was replaced by a square steel range with a box-shaped copper hot water tank at one side. It was filled every evening with water from the well.

Mother made nearly all our clothes until we were about ten years old. We wore a jacket and shirt, knee-length pants and long stockings and coats. The coats and stockings were generally discarded in summer. Some half-cozen sheep supplied wool which was taken to the mill to be carded. The carded wool was spun into yarn at home and used to knit stockings and socks, mittens and scarves. Mother's little spinning wheel is still in the family. She was also skilful with her needle and did fine embroidery and crochet work.

No weaving was done on our farm but Mrs. Walker next door and many others did some. My Grandmother Morrison did a lot of weaving and we have samples of her fine work like woolen blankets and linen tablecloths woven from flax which she grew and spun herself.

On the farm we lived simply but well. Mother was an exceptionally good cook and a capable housekeeper. Potatoes and a wide variety of vegetables were grown. The orchard supplied apples, cherries and plums. Ungraded apples could be bought in the country for about a dollar a barrel. Small fruits like raspberries, blueberries and strawberries were preserved for desserts in the winter months. The small wild strawberries that grew among the stumps of logged-off land were in a class by themselves. Maybe Eve dropped a few plants over the wall before she left the Garden.

In the spring, smelts by the hundred could be taken from the mill-streams with a scoop net. Codfish, herring and mackerel could be bought for a few cents a pound. Dried codfish and pickled herring were in common use on the island with oysters and lobsters more of a luxury. Chicken and eggs, milk and cream, and pork and beef were products of the farm. Wheat and oats were taken to the grist-mill to be ground into flour and oatmeal. The store did supply such things as tea and coffee, sugar and molasses and rice, raisins and spices. But the farm itself was the main source of food, with some help from the sea and a good deal from the family. Cash income came, of course, from the sale of surplus farm products.

Farm work is governed by the seasons and we may think of the yearly cycle as beginning in the spring. Longer days, a stronger sun and melting snow were signs of approaching spring. Gradually the snow disappeared and with warmer days there came the mayflowers in the woods, the birds in the trees and the chorus of frogs from the ponds.

When the land was dry enough to work, the ploughed fields were harrowed and the oats, wheat and barley sown. Somewhat later the potatoes were planted by dropping sets in the furrow behind a plough. The turnips and mangels were sown by means of a hand drill in the top of ridges made with a plough.

Haying brings back memories of warm summer days, the sound of the mowing machine and the scent of new-mown hay. After drying, the hay was taken in large loads to the barn and raised to the loft by horsepower. The horse pulled a long rope which was threaded through a number of pulleys and a carriage which travelled above the loft on a wooden track. By this system and a special work, the hay was raised to the roof and then horizontally any distance required.

Later on the wheat and oats began changing color from deep green to fields of golden grain which waved in the breeze. When the grain was cut, the sheaves were placed on end in pairs and five or six pairs made a stook. The stooks were left to dry in the sun for some days before being stored or stacked for threshing in the winter. With warm days and sunny skies, harvest time was perhaps the busiest and most satisfying time of the year.

When the nights began to show a touch of frost, the potatoes and turnips were dug. The potatoes were gathered in baskets bought from the Indians who were experts in making them. The potatoes and vegetables for family use were stored in a cellar under the house and the turnips and mangels in a cellar under the barn. The first money we earned outside the family was for picking potatoes - forty cents a day.

The potato and turnip field was then ploughed and harrowed to be ready for a grain crop the following year. The old potato tops collected by the harrow were piled up and burned. They did not make much of a fire. In later years I thought of them every time I read Thomas Hardy's "The Breaking of Nations" in which a man with an old horse half asleep is harrowing a field, and:

Only the/in smoke without flame
from the heaps of couch-grass;
Yet this will go onward the same
Though Dynasties pass.

A single plough, which could be drawn by one team of horses, was used. So Dad must have found it a rather slow business ploughing the grain fields in the fall. But if the weather was fine, as it often was, perhaps he would give the horses a rest while he enjoyed the sunlight mellowed by the haze, or the maple trees in their lovely autumn colors or that golden interlude known as Indian summer.

After the snow came, the firewood for the year was cut in the woodlot at the end of the farm. The fine trees of white and yellow birch were cut into logs and piled behind the house. Later in the winter, they were cut into stove-length blocks by a circular saw. The saw was driven by that source of farm mechanical power, the two-horse treadmill. Neighbors generally helped each other with this work. The blocks of wood had to be split up with an axe for the stove and there was always a job waiting for anyone in need of exercise. Then, too, there were the daily chores of watering, feeding and looking after the live stock from hens to horses.

But there was time for play as well as work. With other children we played baseball and cricket, generally with homemade bats and a ball covered with leather. There were also old standbys like hop-scotch and hide and seek, with an occasional get-together for a session of ghost stories, after which we were afraid to venture in the dark. In winter there was

counting on the hills and skating on the frozen ponds. The skates, which were adjustable, were clamped onto the skater's regular boots. In the house, we had dominoes and checkers and card games but not with the regular playing cards which were frowned upon as the instruments of that gambling game, poker. Dad and our neighbor, William Walker, played a lot of checkers together. Children did not expect to be entertained then; they looked after their own amusements.

There were a number of books in our home like novels of Scott and Dickens, some of Shakespeare's plays, poems of Burns, Scott and Lamyson, a few biographies, Pilgrim's Progress and of course Bibles. For weekly newspapers we had the Charlottetown Guardian and The Montreal Family Herald and Family Star. One of my happy recollections is of Saturday nights in winter when Dad would read aloud the weekly instalment in the Family Herald of some book like "The Man From Glengarry" or "Strong Mac". After a day outside, the warmth of the kitchen stove was welcome and we would lie on the buffalo robe which had been brought in to dry by the fire. From there we would be transported in imagination to exciting scenes far beyond the Island. We could hardly wait for the next instalment. A little later I became acquainted with the works of greater writers in such books as Ivanhoe, Kenilworth, The Talisman and David Copperfield.

The Bible also became a familiar book to us. After breakfast every day, Dad read aloud some verses from the Bible and a prayer from a book of family prayers. We went to Sunday School and the family sat together for the regular service afterwards. The sermons were longer in those days and much of that was said was beyond my power of understanding. But we were convinced that "the way of the ungodly shall perish" and "the way of transgressors is hard". From this religious training I learned by heart many of the finer passages of the Scriptures, including a number of Psalms. The child who is unacquainted with these is missing much even from the point of view of language and literature.

Mother sang in a church choir before her marriage and on Sunday evenings she would often play the organ and sing the good old-fashioned hymns for us. We got to know many of them by heart. The rhythm and beauty of poetry had a special appeal for me and I found it easy to memorize. In my storehouse of memory are many shorter poems of lasting beauty. In a way this fondness for poetry made up for a poor ear for music, although I like listening to simple music, especially the old songs.

Wensington had a good four-room school where we went regularly and studied our lessons at home. In addition to text-books, the main tools of learning were a slate and slate-pencil. Fortunately these sources of noise have long since disappeared from the classroom. On the slate we wrote long columns of words in spelling tests and did scores of problems in arithmetic. History and geography and Latin and French seemed to be largely a matter of memory. On the whole, school was rather interesting but I don't recall any unquenchable thirst for knowledge.

There was a book of Euclid at home that I started to read before we studied geometry in school. I still remember the thrill I got when I found out that the propositions could be proved by logical reasoning and did not have to be memorized like so many things. The ancient Greeks must have

felt somewhat the same when they discovered the power of reason. I liked mathematics and mathematical problems.

Brent was always interested in horses and the farm while I was more mechanically inclined. I learned early how to use carpenter's tools and made models of things about the farm, such as a stumping machine and a threshing machine complete with threshner, shaker and fanning mill. It was about two feet long and when fed with high-cut stalks of wheat would separate the wheat from the chaff and straw. With the help of a wood-lathe, I made a six-inch model of my mother's spinning wheel. A source of power to drive things was always a problem so I developed what I thought was a good idea for a perpetual motion machine. Fortunately it never got beyond the planning stage. I had never heard of the "Law of the Conservation of Energy" then. Other things that youngsters made in my day were wooden whistler, spinning tops, boats, windmills and arrows which could be sent high in the air by means of a stiff switch with a piece of string attached.

With very vague ideas about what engineering was, I wanted to become an engineer. Ern (E.W.) Downess, whose mother in Kensington was a great friend of my mother, told her that electrical engineering was the coming thing and that I should take it up. So I decided to be an electrical engineer. Ern had been a young soldier in the Boer War and was studying electrical engineering at McGill. Many years later I knew him as a successful engineer and a company president in Alberta.

Many things happened in our family before I eventually got to McGill. When we moved to Kensington, my youngest half-brother, J.D., came for a year at Kensington school before going to Prince of Wales College. He then got a position in the Bank of Nova Scotia but before long his health began to fail and he went back to the French River farm under the care of his aunts. He died of tuberculosis in 1899 at the early age of 19.

Dan had gone to Prince of Wales a few years before J.D. and was teaching school in Long River. He too was threatened with T.B. and decided to try the drier climate of western Canada. After talking it over, Dad rented our farm on shares and he and Heath went west with Dan. They filed on three adjoining homesteads near High River, Alberta. Dan's health continued to fail so they returned to the Island. Dad came home and Dan and Heath to the French River farm. Dan realized that he did not have long to live and spoke of dying as "going home". One evening in his room, he was talking to his Aunt Mary and said, "Do you know my nose is cold. I must be getting old". And before she realized it, he was gone. The world could do with more like him.

A year or two later Dan Ailey, a rancher from High River, and his wife were visiting their old home on the Island. They came to see Dad and told him that land in the High River district was increasing in value and that he and Heath should complete the requirements for title to the homesteads. This they did and, as Heath wanted to return to the French River farm, Dad bought his quarter section (160 acres).

Our family moved to the High River farm in 1905. Dad and Brent went out in the early spring. Mother with Ernest waited until I had completed a year at Prince of Wales college. I had written the entrance

examinations the summer before. Two scholarships were awarded in each of the three island counties. I was ahead of one of the winners in another county, much to my surprise - and others.

Room and board in Charlottetown cost \$2.75 a week, which is an indication of the value of money then. Charlottetown was to me a large city, where I gained first hand knowledge of electric lights, a furnace, hot and cold running water and a room in the house known as a bathroom. There, too, for the first time I saw an automobile, probably the only one on the island then.

The year at Prince of Wales was a wonderful experience. There were less than a dozen members of staff, they knew the students personally and took a great interest in them. The principal, Samuel H. Robertson, possessed both dignity and charm and was an inspiring teacher. A few years ago, the Robertson Memorial Lecture at Prince of Wales was given by Leonard Brockington, one of Canada's finest public speakers. In speaking of the College, he said in effect: "I believe in the greatness of little things and little places. I can think of no fitter place for communion with the great minds of the past, for the quiet enjoyment of literature, for calm reverence and faith in matters of the spirit than this little college in this little island." On looking back, I feel that Prince of Wales had those qualities in my day. This college education was augmented by the churches in "Matters of the spirit" and by the Y.M.C.A. with its various activities and its gymnasium for games and physical fitness.

In the spring, D.C. Harvey led the class in the First Year Examinations and I was among the top two or three in the class. Harvey became a Knocks Scholar, a professor, a historian and an archivist in Nova Scotia.

Before going west, Mother, Ernest and I visited her sister, Sarah, and her husband and her brother and his family in Belfast, about twenty miles east of Charlottetown. The Belfast district had been settled with some 800 Scots by Lord Selkirk in 1803. Ernest and I were happy to renew acquaintance with our uncles and aunts and cousins. For Mother, it was a joy to see them all again and old friends as well. They talked for hours and sometimes told amusing stories, partly in Gaelic, which we younger ones could not understand. In St. John's Presbyterian Church, Belfast, there were two services every Sunday, the first in Gaelic, immediately followed by one in English. A few years later, the Gaelic service was heard no more.

This church was built on a hill by the Belfast pioneers. "Beautiful for situation", it is a lovely church with a graceful Wren spire like many in New England. In the cemetery beside the church, the pioneers are at rest and in the background is a beautiful grove of maples where on Sundays, they tied their horses to the trees. There is a fine tombstone in this cemetery in memory of John Morrison and his wife, Elizabeth Smith, Mother's parents. It was a tribute from their five sons, four of whom were in far away Oregon and California.

Mother had many good friends on the island and if she left it with regret she did not let us know. In the same year, 1905, Alberta became a province of the Dominion of Canada.

HIGH RIVER, ALBERTA.

In 1805, my great-grandfather, John MacLeod, and his family sailed from Scotland to make their home in the wilds of Prince Edward Island. Just one hundred years later, in the spring of 1905, our family left the Island to make their home on the farm near High River, Alberta. But conditions were vastly different. The pioneers from Scotland made the long voyage across the Atlantic in small and crowded sailing ships. It was a dangerous voyage lasting some eight weeks or more and shipwreck was not uncommon. Food was generally poor, water scarce and living conditions for the most part rather appalling. They found the Island practically covered with forests of maple, birch, spruce, fir, pine and other trees. It was a stupendous task to claim from the forest even a few acres for a home and farm. And clearing land was an ever present task for many years. The farm buildings were generally made of logs hewn by hand until saw mills could be built on the streams. It was a strenuous life.

By contrast we made the trip to Alberta by train. The tourist type car was reasonably comfortable and there was a stove in one end where the passengers could make tea and do light cooking. Perhaps the stove and the tea accounted for the air of friendliness in the car. Unlike the Island, the prairies are practically treeless. All the early settlers had to do was to cut the prairie grass for hay and then the tough sod and rich dark soil were ready for the plough. For farm buildings, every town or village along the railway lines had lumber, doors, windows and other building supplies. There were problems to meet but they could hardly be compared with those which faced the pioneers on Prince Edward Island.

Mother, Ernest and I had an interesting trip through the widely varying scenery of the Maritimes, Quebec, Ontario, north of the Great Lakes and the prairies. Dad met us in High River, a pleasant little town where the bareness of the prairie is relieved by trees and bushes growing beside the river. In addition to a few stores and a couple of elevators, it had three or four churches, two doctors and lawyers, a real estate office and then, or soon after, a weekly newspaper, The High River Times. Saddle horses and grain wagons were in evidence everywhere. They were then the standard means of transportation. The land is divided into two-section blocks by parallel roads. The north and south roads are a mile apart and the east and west roads two miles apart. A section is a mile square and contains 640 acres. A homestead was a quarter section of 160 acres.

Our 480 acre farm was about five miles by road north-east of High River with the farm buildings near the center of the section. From the north-south road on the west side, the land sloped slightly to the east. Fifty or sixty miles west we could see the Rocky Mountains, sometimes touched with shades of pink by the morning sun, generally steel blue during the day and in sharp outline against the evening sky. Eastward we could see for miles and to the northeast the land rose gently to Gladys Ridge some ten miles away. The open spaces were all around us and in the clear night sky were the brilliant stars in one vast unobstructed dome. While here and there beneath the stars a few tiny points of light marked the neighboring homes. It was said that few of them were ever locked. In a far corner of the farm there were some old hay-

stacks where coyotes made their home. Especially on clear moonlit nights their sharp barks and long-drawn-out mournful howls were the only sounds to break the silence, and worry the dogs.

Our best friends and neighbors were the James Frasers and their four boys who lived a couple of miles south of us and the George McIrvines who had the section to the north. Peter and Billy Robertson and their sister Grace had the section to the west with their house on the far side of it, a mile and a half from ours. The Schroeders and their two children were just south of us, while the Fred Gilberts and the Andrew Petersons with four boys were on the east side. The Petersons were industrious Swedes and eventually all four boys had homes of their own. Ed Schroeder was a clever mechanic and always ready to help out with repairs. He had the first car in the district, a Ford, and took the lead in getting graded roads to town. They were all good neighbors, the nearest half a mile away.

Dad and Heath had built a barn, a granary and a small house on the farm. During our first summer there, we boys had our sleeping quarters in the granary while two carpenters built the farmhouse in which the small one formed the kitchen. The house had a small hall, a living room and a fair sized dining room with four bedrooms upstairs, one above the kitchen.

In a large garden back of the house, potatoes and vegetables grew in abundance in the rich prairie soil. The garden was surrounded by a hedge of small trees and bushes. Near the barn there was a rather deep drilled well from which water was pumped by a windmill for the house and the stock. A rock-er arm device, driven by a horse, replaced the windmill in calm weather.

That first summer we put up over 200 tons of prairie hay, mostly for sale. The hay stacks were built in the form of a long shed with a peak or saddle roof. They were built in sections about 20 feet square and in line. The hay was cut, dried and raked into windrows. A long sweep with a team of horses at each end was used to collect the hay and take it to a standard form of home-made stacker. The sweep with its load of hay was drawn up to the top of the stacker by a system of ropes and pulleys and a team of horses. The hay fell on the stack and the sweep was lowered back to ground for another load. The weather was fine, the work healthy; we ate heartily and slept like a log.

When the prairie hay was cut, the land was ready for ploughing, discing, harrowing and then seeding in the fall or the following spring. Fields half a mile long were quite a change from the small ones on the Island.

As on the Island, we had half a dozen or more milk cows. We installed a hand operated cream separator and a churn in a room in the coal and wood shed near the house. The cream was separated from the milk while still warm and churned once a week except in winter. Mother was the capable manager of this department and I was her assistant. The sale of butter, eggs and chickens kept the family supplied with meat and groceries at least. Eaton's catalogue was the standard reference for supplies of all kinds from clothing and books to such things as an Edison phonograph with large horn and cylindrical records. Once or twice a year, an order was sent to Eaton's and the shipment eagerly awaited by the family.

When we arrived in High River, land was being taken up rapidly

and when I got a homestead it was 30 miles farther east in an area called "the Buffalo Hills". Soon after, I went to Normal School in Calgary for an Alberta Teacher's Certificate. A new school and a stable for horses with space for fuel were built on McIrvine's property across the road from ours. I was the teacher there for three years. There were about fifteen pupils, all in the lower grades. They came on saddle horses, often with a little one on behind an older brother or sister. Of modern school problems there were none.

Teaching meant that I could not keep the homestead so Brent took it over. With some help from the family, he built a small house and barn on it and did some breaking as part of the requirements for title. Sometimes I went out with him to help. One of his neighbors was a character by the name of Charlie Hill. He was the son of an English clergyman and apparently had a good education. He had lived for some years in the western States and came to Canada, he said, to be again under the British flag. He lived in a dilapidated looking shack with a couple of lanky dogs. When he finished with the frying pan, he would throw it on the floor for the dogs to lick. "They can clean it much better than I can", Charlie said. He had travelled a long way from the refinement of an English clergyman's home. But he could still quote with enthusiasm long passages of poetry from Scott or speeches from Shakespeare.

About 1907 the Government Telephones put in party lines connected to their office in High River. The telephone was a great boon to the community even if most conversations had one or two extra listeners. The prairie could be a lonely place, especially for women at home nearly all the time with no one near.

We often got together with the Fraser family on Sunday afternoons. Real ice-cream made with the help of a freezer, ice and salt, was a regular dessert and it was good. Practice with a lariat rope to see who could keep the largest circle of rope swinging around him near the ground was one of our pastimes. Alex. Fraser and I had cameras and we did all of our own developing and printing. Country dances in the winter helped to get the young people at least together. The dances were the waltz, two-step, polka, Rye waltz, Highland schottische, French minuet, Sir Roger and square dances. There were also occasional shows and concerts in High River and the annual Stampede in Calgary. A number of old Island friends living in Calgary came to visit us from time to time, as well as others from High River, so we did not think of the prairie as a lonely place.

Harvest time and threshing were the busiest times of the year. They were anxious times too because so much depended on the weather. From early summer on there was the danger of hail. A hail storm could blow up quickly in a clear sky and be over in an hour leaving the grain fields in the path damaged or destroyed. In the fall, there was the danger of damage by frost. But there many years of fine weather as well and on the average the yield was good. The grain was cut with binders drawn by four horse teams, stacked to dry and then threshed when an outfit became available. The threshing outfit consisted of a separator driven by a steam engine through a long belt, about ten wagons with grain racks to haul the sheaves to the separator, a cook house and a bunkhouse, both on wheels. The farmer supplied portable granaries into which the grain flowed from the separator and sometimes hauled part of it directly to the elevator. It was always a relief to have the grain safely

under cover before the rain or snow interfered.

In the winter of 1909, Mother went to visit her brothers and their families in Oregon and California. Her brother, Hector John Morrison, lived in Portland, where he was a successful builder with an interest in real estate. He was always very generous to his relatives, including Brent and myself. On this visit, he sent us by Mother a fine double-barrelled shotgun. Her brother John with his wife and two children lived in a fine home in Los Angeles where he too was a contractor. The visit was a delightful one for Mother. While she was away, I took charge of the cooking and the family survived.

McGill was not forgotten on the prairie, but before being admitted to Applied Science, I had to pass the entrance examinations in Algebra, Geometry and Trigonometry. So, in the winter of 1909-10, I studied these subjects with the help of a correspondence school in Toronto. In the spring a friend of the family, who was a Lieutenant in the High River squadron of the Fifteenth Lighthorse, asked Vern Peterson and me to join the squadron which was going to Sarcee Camp near Calgary for summer training. I agreed, provided he would get me leave of absence to write the McGill examinations in Calgary. This he did.

The summer camp was a new experience with an introduction to military discipline and routine, neither of which did us any harm. We soon learned that military life is governed by regulations, down to the smallest detail, and that it is advisable to follow them. We lived in army tents and the proper care of our quarters, equipment and horses took a good deal of time. Among other things, we were equipped with rifles and light English saddles with detachable saddle-bags. We had mounted drill twice a day and became familiar with the formations and movements of a cavalry regiment. Very soon the horses seemed to learn what was required of them too. Well executed cavalry movements were a pleasure to see, but mounted troops have long since ceased to be of military value.

I passed the mathematics examinations with a first class average and was admitted to First Year Applied Science. From teaching I had stored up enough money for the first two or three years of the course and the family supplied the rest. The C.P.R. allowed students to travel for half fare.

Mother carefully checked my clothes and together we packed my steamer trunk and a valise for the train trip. Perhaps we were both thinking of how much we had done together during the past few years. But our family had its share of Scottish reserve which does not approve of much display of emotion. So, with the best wishes of all the family, I set out on a new venture as a student of McGill while they carried on with the chores and the work and the risks and the rewards which go to make up life on a farm. I am very glad that a farm was my early home.

McGILL UNIVERSITY

In the fall of 1910, John Turner Bone and I travelled east by train to Montreal. After living on the prairie it was a treat to see the lovely trees again, the graceful elms, the maples and others in the country and on the campus and streets of Montreal. John was from a good family in Calgary. He had more money, joined a fraternity and took Civil Engineering but these things did not interfere with our friendship all through university. In the First World War, he joined the Royal Flying Corps and was killed in action, as were too many other students I knew at McGill.

One day in the University bookstore I got talking with a student who was working there. He told me his name was Joe Dean from Valleyfield, Quebec, a senior in Arts and going into Medicine. After a while, he said he had a double room in a French home on St. Famille Street and asked if I would share it with him. On such little acquaintance I said I would and we were friends for years. There were four girls in the family who spoke good French but no English. My French improved somewhat but I am no linguist. Three other students were rooming there; two from England, Cummings and Billington, and Sydney Mifflin, a freshman in Civil Engineering from Newfoundland. He and I roomed together for three years in other homes.

Science '14 started with about 200 students but nearly half of them never reached the finish line. McGill had the reputation of being an outstanding university, especially in Medicine and Engineering. On the whole the professors in Applied Science were good and they did not lack one or two characters. Some had written textbooks which were used in universities across the continent, such as Electrical Machine Design by Alexander Gray, Electrical Engineering by C.V. Christie and Differential and Integral Calculus by D.A. (Danny) Murray. The Head of the Department of Electrical Engineering was Dr. Louis Herdt, a Dane. One of his courses was on Electric Traction and he told us a lot about "Twaction and Twains". It was rumored that his salary at McGill was \$3000 and that he earned ten times as much as a consulting engineer.

McGill had come into possession of the valuable Molson property and one project for our class (Science '14) was to make a detailed survey of it. This we did in September, 1911, and during the Second Year each student made a detailed map of the Molson property to scale from his survey notes. The maps were all finished in water colors. When I returned to McGill about twenty years later, I was surprised to find my map of the Molson property framed on the wall of the Second Year Draughting Room. It has, no doubt, long since disappeared.

During the second year spring examinations, I was troubled with appendicitis and could feel a lump in my right side but did not tell the doctor until the examinations were over. He sent me at once to the Royal Victoria Hospital at McGill, where Dr. Armstrong, the Chief Surgeon, removed my appendix. I had a feeling he did not approve of my leaving it so long. I was in a public ward and never realized before how many ills the flesh is heir to. The medical and hospital services were free for students. After the operation I went home for the summer and worked on the farm. I had written the home folks regularly

and often heard from Mother and Dad with an occasional letter from Brent and Ernest. It was good to be home again.

With the beginning of the Junior Year, I had reached the half-way point in my course at McGill and some mention should be made of my extra-curricular activities.

Military courses took some time in each of my four years. Sir William Peterson, the Principal, was a great Imperialist and was concerned about what he called "the impending struggle in Europe". One result was a series of military courses given at McGill by Regular Army Officers from the Royal Military College, Kingston, leading to a lieutenant's commission in the British Army. I had no intention of becoming an army officer but I attended regularly and found the courses on Military History most interesting. One course was on Jackson's campaign in the Shenandoah Valley in the U.S. Civil War, and another on the Russo-Turkish War of 1877-78 - chiefly the defence of Plevna. The day-by-day movements of army units on each side were studied and we were frequently asked for "an appreciation of the situation". Our opinions on what action should be taken next were later compared with what actually happened. I did not write the examinations but in my senior years I took the Group B courses on Field Engineering, Map Reading and Field Sketching and passed the War Office examinations in these subjects.

In the fall of 1912, an Officers Training Corps was established at McGill. It started with about 100 men in two companies; my room-mate Syd Miffilin and I were Sergeants. Drill and parades were held in the Fifth Royal Highlanders Armories. McGill had become the first university in North America to establish an Officers Training Corps.

The McGill Union and Strathcona Hall (the home of the McGill Y.M.C.A.) were centers of student activities where well known figures could sometimes be heard. Among others, I remember Lord Strathcona, then a very old man, Sir Wilfred Laurier of the silver tongue, Sir Robert Borden, the First World War Prime Minister of Canada, Sir Ernest Rutherford, the famous physicist and a former McGill professor, R.B. Bennett in his younger days, Stephen Leacock, always a delight for the students and Dr. Andrew MacPhail, a writer and professor in the Medical Faculty. Dr. MacPhail was my mother's cousin. He was knighted during the First World War. His book, "The Master's Wife" gives an interesting account of his mother and father (a schoolmaster) and life on a P.E. Island farm. He was good to me at McGill. One day at tea in his home, he was talking about how Islanders carried fish on a sort of stretcher and didn't have enough initiative to put a wheel at one end and save a man. He said he had tried to get them to grow tobacco but they were not interested - their fathers never grew tobacco. Just then a "mainlander" came in and MacPhail said "We were talking about the Islanders - finest people on earth". Dinner at his home was a pleasant change from a theological college dining room.

In the winter we often skated on Saturday afternoons or evenings and sometimes the Royal Victoria College girls joined in. We also went for hikes on the mountain and occasionally to the theatre. One winter Mantell was playing Shakespeare in Montreal. Sometimes students went as supers for matinees, perhaps to play the part of a crowd. I think the pay was 50 cents a show. My highest achievement in this field was in "The Merchant of Venice" where I was dressed as a Venetian gentleman and was only a few feet from Portia when she

delivered her famous speech, "The quality of mercy is not strained". It was fascinating.

In my first year, Cummings introduced me to Christ Church Cathedral. I got to like the Anglican service and went there from time to time. My regular church was the American Presbyterian where the Rev. Robert Johnston was the minister. He had a wonderful command of language and his word pictures of the historical background for his sermons gave me a new approach to history. The church had a Young People's Society where Mifflin and I became acquainted with some young Montreal people.

I was Treasurer of Science '14 in the third year and President of Class '14 in the same year. About all I remember of the latter office was a meeting to elect the Committee for the Junior Dance and another to elect the officers of the Graduating Class.

There were several \$200 tutorial bursaries in Applied Science. I had one to teach second year calculus in each of my last two years. One evening a week I had a class of students who were having difficulties with calculus. The class was always small and we had time to take up individual problems. One year I was a demonstrator in first year Survey School in the fall. All this teaching work was good experience and also helped to balance the budget.

Following my third year, I worked as a student apprentice in the Canadian Westinghouse Company plant at Hamilton. Students from other universities were there too. I was assigned as a helper to one of the workmen in the Induction Motor Department and later in the Transformer Department. The work was not hard but the hours were long - from 7 a.m. to 6 p.m. with an hour off for lunch. With Saturday morning, that made a 55 hour week. The pay was ten cents an hour for undergraduates and twelve for graduates while on course. More recognition of the value of university men to manufacturing companies came later. However it was all good experience and the Saturday afternoons and Sundays were most enjoyable with parties, picnics and canoeing and the odd trip by boat to Toronto.

In September we were back at the University for our final year under professors whose methods of teaching, personalities and mannerisms we had come to know well. One of our senior demonstrators in the Electrical Laboratory was "Andy" MacNaughton and his comments and initials were on many of my lab. reports. He was a major in the Artillery then and interested in ballistics. Years later he was known as General A.C.L. MacNaughton, the first Commander of the Canadian Forces in the Second World War.

I was not a student who could make high marks without much study, but I seldom worked till midnight and usually not on Sundays. I enjoyed writing examinations which was an advantage. I remember working in the draughting room one day where a group of fourth year students were reviewing an electrical course. They had some difficulty and I heard one say "Let's ask MacLeod over there." Then a French student said in a stage whisper, "MacLeod doesn't know any more than the rest of us - all he knows is how to answer examination questions better." I do not have the records of the first three years but I was one of the top two or three in each year and collected three or four prizes. In the final year, I won the British Association Medal for highest standing in Electrical Engineering, the Summer Essay Prize and Honours in most electrical subjects.

In the spring of 1914 also, I was one of nine in the Officers Training Corps who qualified for a Lieutenant's Certificate. It was presented at the Annual Convocation of McGill on May 12th, 1914. I had no idea then that it would prove so useful in a very few months. At this Convocation, I received the degree of Bachelor of Science in Electrical Engineering.

Before graduation, I told Dr. Herdt, the Head of the Department, that my home was in the west and that I would like a job there if anything turned up. I was luckier than Mr. Micawber for, when the examinations were over, Dr. Herdt told me that the University of Alberta wanted a Lecturer in Electrical Engineering and that he would be pleased to recommend me if I would like the position. I thanked him and said I would. I then asked Professor Gray if he thought I could handle the job all right. In his quiet Scotch voice, Gray said: "MacLeod, let me give you a bit of advice. If you can get the job you want, never hesitate to take it, and always let other people worry about your qualifications for it." I was appointed Lecturer in Electrical Engineering at the University of Alberta at a salary of \$1200 per annum.

Thus my undergraduate days at McGill came to an end. As I remember them, they were generally pleasant, interesting and sometimes exciting. Syd Mifflin and I hit it off well together as room-mates. In two at least of our rooming houses we felt something of the atmosphere of a home, often joined the family and played with the children. When we parted, Syd gave me a little book called "Good Fellowship" in which he had written: "Three years of it and nary a row". In the many years since then, I have met quite a few of my classmates. It is always a pleasure to see them and to talk of old friends, old times and Old McGill.

After graduation I went back to the Westinghouse plant in Hamilton for a couple of months. I was put on the Test Floor which was generally operated by graduates. All machines had to be tested and approved before leaving the factory for sale. Everything had to be done with care to avoid accidents, but the work was much more interesting.

By knowing a little about an oscillograph, which was an uncommon instrument then, I got the chance to work with some engineers from Pittsburgh who came up to carry out a series of tests on the large motor-generator set and reversing D.C. motors in the rolling mill of the Steel Company of Hamilton. The M - G set with its enormous flywheel took an hour and thirty-five minutes to run down after power was shut off. This electrical drive was of the latest design and I was pleased to see the rolling mill in operation for several days. The oscillograph came from Pittsburgh too and my job was to connect it up, run it during tests and develop the long rolls of film on which the graphs of voltage and current of the reversing motors were recorded. The engineers did not want to send them out to be developed.

On the last test, there was a short circuit on the 600 volt leads to a voltmeter not far from me and I got my eyes "flashed" by the ultra violet light. The doctor said my eyes would be painful in about 24 hours and had me stay in a shaded room for two or three days. Fortunately the flashing left no permanent damage.

After two years at McGill and some good experience at Westinghouse, I was welcomed home and glad to be back. As usual there were changes. Brent

and Elsie Dechman were married. Elsie came from Nova Scotia and had been teaching school in the district. Brent had sold his homestead and he and Ernest were farming the Saulesberry section that was formerly owned by George MacIrvine. They had about a dozen good horses with harness for two four-horse teams and some farm machinery. Mother had helped them financially and they could borrow things from home. There was a good house and other buildings on the section. Brent and Elsie lived there and Ernest with them. The large grain fields on both farms were in fine condition.

The summer was a peaceful one, undisturbed by the momentous events taking place in Europe. Even the declaration of war by Great Britain on August 4th, 1914, seemed far remote from the western prairies. Britain and France could handle the situation and the war would probably be over before any Canadian units would get into action, was the general belief. Very few on the allied side realized then the strength and efficiency of the German armies and how unprepared the Allies were to meet the challenge.

THE UNIVERSITY OF ALBERTA

In September, 1914, I reported to the six-year old University of Alberta. It was growing rapidly. Athabasca Hall and Assiniboia Hall, two student residences, were used in part for offices and lecture rooms. Athabasca also included the dining room and the gymnasium, while Assiniboia had a few suites for married members of Staff and a floor in one wing for single men. (I had a room there.) In addition there were two long laboratory buildings with offices and lecture rooms. One was for Civil Engineering and the other for Mining and Metallurgy. All the buildings on the campus were supplied with steam and electric light from the central powerhouse which had space at one end for the future Department of Electrical Engineering. Four campus houses had been built for senior members of Staff and six others were under construction, as well as Pembina Hall for women students and the Arts Building.

During my two years as Lecturer in Electrical Engineering, I was a member of the Physics Department of which Dr. R.W. Boyle was head. He was an electrical graduate of McGill who had done graduate work under Sir Ernest Rutherford in Manchester and had been our lecturer in second year Physics at McGill. At Alberta, I gave the course on Electricity and Magnetism in second year Physics as well as the lectures in Electrical Engineering to Civil and Mining students. But a large part of my time was taken up by military work.

Military training became active with the return of the students and I joined in to help. Later in the fall, Dr. Tory, the President, told me that Ottawa had approved the formation of a U. of A. Contingent of the Canadian Officers Training Corps. He said I was the only one on the staff with military qualifications, and asked if I would take command of the Contingent. I agreed and the U. of A. Contingent C.O.T.C. was established as a Company by Army Headquarters as from January 11, 1915. At the same time I was gazetted to be Captain and to command the Contingent.

Col Cruikshanks, the O.C. of the Military District, sent Sergeant Major Loftus, a regular soldier, to assist in the training and

lecture work. There were around 150 men in the unit and many of them took extra lectures in order to cover the work of two years in one. Of these about forty qualified as lieutenants by oral and practical examinations in the spring of 1915. They included four members of staff, namely, C.S.Burgess, W.M.Edwards, S.D.Killam and A.E.Cameron. The last two were lieutenants in the Contingent.

Col. Cruikshanks was very much interested in the C.O.T.C. As Commandant of Sarcee Camp near Calgary, he arranged for me to be attached to the 51st Battalion there in order to qualify for the rank of Captain. It was the first time I had experience in charge of a company on manoeuvres or a battalion at drill. I was the Officer in charge of the Rifle Range for several days. Some months later I received my Commission as a Captain in the Canadian Militia as from January 11, 1915. It was signed on behalf of King George V by the Governor General of Canada.

I left Sarcee Camp on July 21st and was looking forward to a few weeks at home. Next morning in Calgary, Bob Glover (an Island friend of ours) told me that Ernest had been drowned the day before in the Highwood River. When I got home, the family told me that another lad had asked Ernest to go to a picnic. They decided to ford the river as that was the shorter way. The river was higher than usual, the horses plunged and the boys were thrown out. The other lad was driving and the horses pulled him to safety but Ernest was drowned. Neighbors quickly strung a woven wire fence across the river and Ernest's body was recovered. A host of friends attended his funeral and he was buried in the High River cemetery. It was a sad summer for us all and Dad and Mother seemed to age from that time.

The C.O.T.C. started the 1915-16 session with many more trained instructors and soon became an efficient unit. The war was a serious business and students and staff were willing to spend more time on military work. Following a request from the four western universities, the Minister of Militia authorized the formation of the 196th Western Universities Battalion, C.E.F., each university to supply a company. Alberta's was C Company. Lieut. A.D.Cowper was appointed Acting Captain and Lieut. W.M.Fife, senior Lieutenant in the Company. Both were members of Staff and from the C.O.T.C. Recruiting started in February. I was appointed to command the Company as from April 17, 1916, when it was nearly up to strength and C.O.T.C. training over. A few days later Sergeants L.V.Miller, J.W.Mac Kenzie and Sydney Wood were appointed Lieutenants. The Company had a large number of students and graduates, teachers and clerks with some lawyers and engineers. The variety of discussions that went on in Assiniboia Hall, where they were billeted, was amazing.

C.S.Burgess, professor of Architecture, was appointed Captain and Quartermaster of the 196th Battalion and Dr. John MacEachran, professor of Philosophy, Captain and Paymaster. I shared quarters with Burgess, a quiet Scot, but one of the best read people in the University. After a week or two, it came out that he knew a little bit about fencing and had some foils and masks, which I persuaded him to bring over to our rooms. He taught me the fundamentals of the art but I could never parry quickly enough nor get through his defence. I learned later that he had been one of the best fencers in the Montreal Fencing Club.

During these two years at Alberta, a High School teacher and I completed the work for a Master of Science in Arts degree under the direction of Dr. Boyle. The work we did in Radioactivity and Electro-magnetic Theory proved extremely valuable a few years later in graduate work at Harvard, which started with Maxwell's Equations. We received our diplomas at the 1916 Spring Convocation, to which all in C Company were invited. They added much to the applause, especially for men in uniform receiving degrees.

In spite of the war, life at the University of Alberta in those days was very pleasant. The President and Mrs. Tory had those fine qualities which inspired loyalty, harmony and friendliness in the Staff. Afternoon teas, parties and dances all contributed to a happy community life. It was at a party given by the Provost, Dr. MacEachran, that I first met Helen Montgomery. She had graduated from Alberta in 1914 and with her friend, Hazel Rutherford, had gone to the University of Toronto for the first term of the next session. They lived in Queens Hall which was presided over by Dean Alice Parkin who later became Mrs. Vincent Massey. Mr. Massey was then Dean of Burwash Hall and directed the play "The Critic" for the girls in Queens Hall. Helen took a leading part in it. She and Hazel were popular guests at the MacEachran party and apparently knew most of the people there. It was nearly a year later that Helen and I met again at a dance where we found that we had many things in common. Our names had a familiar Greek origin, and Helen and Hector went well together. We were both Presbyterians of Scottish descent. We had graduated the same year, 1914, although I was five years older. We had both won graduation medals for highest standing.

That evening was the beginning of a friendship that led to our engagement on the 17th of June in the same year, 1916. If the intervening time seems short, just remember that the war was on my side. War still retained something of its ancient glory and romance was in the air. Bubs Hughes, one of Helen's best friends, was also a faithful ally. She was a P.E. Islander and a fine singer. Helen was a concert pianist with an L.A.B. degree from London and often accompanied Bubs in such good old songs as "Land of the Skyblue Water", "Where my Caravan has Rested" and "The Long, Long Trail". For us it was a glorious spring undimmed by the shadow of war.

The University gave a dance for "C" Company when the date of our leaving became known. Helen and I went together. It may be interesting to note that I had to ask the men to refrain from dancing the one-step as the authorities did not approve of it. How times have changed! It was a very enjoyable dance even without the one-step.

Early in the evening of June 22nd, "C" Company marched from the University to the South Side C.P.R. Station. A special train was waiting there to take us to Camp Hughes, Manitoba, to join the other companies of the 196th Battalion. A large crowd of relatives, friends and others had gathered at the station to wish us well. The Company was dismissed for a while so the men could wander around and talk to those they knew. Helen and some other girls came into the officers' car to see the fine accommodation the Railway had provided. There was many a fond farewell and then a hearty send-off as the train began to move. Never again did we have such good quarters as Assinibois Hall nor a football field for a parade ground.

CAMP HUGHES, MANITOBA

Captain Burgess met C Company at the station and showed us the way to the 196th Battalion lines of tents. A Company from Manitoba and B from Saskatchewan were there and D from British Columbia arrived a few days later. The Colonel, D.S. MacKay was brought back from overseas where he had been Second-in-Command of the 27th Battalion. In civil life he was a doctor in Winnipeg. He made everyone feel at home and our Officers' Mess was pleasantly informal. The Second-in-Command was Major R.W. Brock, Head of the Geology Department at the University of British Columbia. He had tramped over a lot of territory and believed in physical fitness. Every morning officers and men turned out for physical training.

The Battalion soon got down to the business of training for overseas. This included practice at the rifle range, day and night manoeuvres and long night marches carried out in silence. The camp had a complete system of trenches, patterned on those at the front. At night one battalion took over from another and manned the trenches for 24 hours. Sporadic bursts of rifle fire made it all seem more realistic. There were some 27,000 troops in the camp.

Courses like Musketry and Machine Guns were common. I took an eight weeks Field Officers Course, including Equitation, to qualify for the rank of Major. Lectures were generally in the evening. The course was followed by two days of practical examinations and four days of written ones. Fourteen officers, of whom I was one, were successful.

The weather was generally good but there were occasional dust storms followed by heavy rain. Large tents sometimes blew down but the smaller bell-tents for officers and men held fast. I had one to myself which had a wooden floor, a cot, an oil-stove and a lantern. Fairly comfortable quarters with a batman to look after everything. *W*

Helen and I wrote frequent letters to each other. No one had known about our engagement but our families, Bubs Hughes and John MacEachran. Early in October, I got a few days leave to go to Edmonton where I stayed with her parents. Helen and I went together to choose her engagement ring - not the normal procedure perhaps, but typical of our habit of doing things together over the years. Helen's mother was the daughter of a Classics professor and a granddaughter of Dr. Robert Hamilton Bishop, a Scottish minister, graduate of Edinburgh University and the first President of Miami University in Oxford, Ohio. She preferred University life to any other and Helen and I hoped to return to the University after the war. When I left we never thought it would be so long before we did. Back in camp, I got a lot of letters telling me how fortunate I was, which of course I knew. Mrs. Tory claimed it was partly her doing - Helen was one of her favorites among the University girls.

In the Orders for October 25, 1916, Captain N.R. Wilson of A Company and Captain H.J. MacLeod of C Company, 196 Western Universities Battalion were promoted to the rank of Major. We just had time to get our captain's stars replaced by a Major's crown before the Battalion left Camp Hughes by train for Halifax on October 26th.

The Battalion reached Ottawa on a Saturday evening and was reviewed on Parliament Square Sunday morning. This was an honor few battalions received in 1916 or later. The salute was taken by Sir Sam Hughes who was

accompanied by four generals, the Prime Minister, Sir Robert Borden and some of his Cabinet. After the march-past, senior officers met the Reviewing Party, who were very complimentary about the Battalion. A movie-film of the march-past was taken and might be found (I hope) among the war records in Ottawa. At the station, Ottawa ladies served coffee and sandwiches to all the men at a very sociable affair.

On November 2nd, the 196th Battalion left Halifax on the R.M.S. "Southland" together with other transports and a British Cruiser. There were about 2000 troops on our ship. Near the British Isles, the transports scattered and each was accompanied to port by a destroyer on the look-out for submarines. Our destination was Seaford Camp near the town of Seaford, a beautiful little summer resort between Brighton and Eastbourne. The camp had well built wooden huts with electric light and stoves for heating. We were allowed to train as a battalion in England but were disappointed to learn that all troops were sent to France as drafts to reinforce existing battalions at the front. Lieutenants could go but no majors and few captains.

The men were given six days leave before starting the work of training again. There was practice at the rifle range and so many schools and courses that all officers and men were seldom on parade together. A long route march was a pleasure, with halts at little villages, old churches and historic spots. The Battalion created a good impression and the authorities decided that it had too much officer material in the ranks to be sent to France in drafts. As a result about half of the men were taking cadet training by Christmas and quite a number were sent directly to an Officers Training Corps. Eighty-eight of the men had passed as lieutenants before enlisting. It was an unusual battalion.

One Sunday after we arrived in Seaford, two other officers and I went for walk out past the golf course. A fog came up and we had to ask a golfer the way back to camp. He was Mr. Ellis, manager of Lloyds Bank in Seaford and after chatting a while, he asked us to his house for tea. An Irish maid who could not read, brought in the tea. Mrs. Ellis was out, but when she came in, she told us that the maid had met her in the hall and told her excitedly that there were three Canadian officers in the room, that they were all white and could all speak English. Next day we opened bank accounts at Lloyds.

A weekly News Letter was printed at the University and sent to all University of Alberta men overseas. It gave news of the University and of the boys who had enlisted, such as locations, promotions, honors and, all too often death in action. It was the best information of its kind that we received. The Comforts Club, organized by University girls, sent dozens and dozens of parcels to U. of A. men overseas. They continued this work all during the war. Knitted woollen sox, cigarettes, dates and raisins were especially welcome. Helen took an active part in both the Comforts Club and the News Letter. In addition, she sent me many parcels of her own making. She also took the St. John's Ambulance course to qualify as a V.A.D. in the hope of getting overseas.

The 196th Western Universities Battalion, as such, went out of existence with the old year, 1916. As from January 1st, 1917, by orders, the 196th was joined by another battalion and became the 19th Canadian Reserve Battalion under the command of Lt. Col MacKay. I was a Company Commander in the 19th.

For the week beginning February 11, 1917, I was Field Officer and Capt. Gardner, Quarter-Master for the Camp. We had to inspect everything about the Camp and make daily reports. On St. Valentine's Day we were riding back from inspecting the Water Tower guard when my horse slipped on the frozen ground and the first thing I knew I was on the frozen ground with an injured leg. Two men from the guard stayed with me while Capt. Gardner got an ambulance. In Seaford Military Hospital, the doctor took off my leather legging and said my leg was broken. He put it in splints, gave me some Scotch and sent me by ambulance to the Canadian Military Hospital, Eastbourne. The Hospital was a Church of England Convalescent Home, recently taken over by the Canadians. I still remember the pale blue walls and the texts above the doors. The nurses, who were called Sisters in the Army, came from the Royal Victoria Hospital at McGill and from the London, Ontario Hospital.

I was the first officer to be admitted. The doctor put my leg in a cast and one of the sisters brought me a good chicken dinner. Our Padre, Capt. E.H.Oliver, brought over some of my kit that I needed and came to see me regularly. Other officers came as well. When an X-ray machine arrived six weeks after I did, the first X-ray taken showed a spiral fracture in each of the bones between the knee and ankle. My foot and ankle had swollen rather badly. It bothered me quite a bit and I did not sleep well for weeks. The sisters did all they could and often at night, if things were quiet, one of them would come in and talk of many things, sometimes serious, sometimes gay but always welcome. They put wings on the hours.

When I could travel on crutches, I spent a good deal of time in the men's ward and in return they would make an evening fire in the open grate in my room. For the first of April, some sisters put a white lily with white ribbon on my door. The impression was soon corrected but one of them told me about it after and said some remarks in the ward were quite complimentary.

Visitors from the town came to see the patients and to interest them in various handicrafts or hobbies. They sometimes took me for a car ride to historic places around Eastbourne. The Beresford family was especially kind. They were relations of Lord Charles Beresford. Mr. Beresford was quiet but his wife was Irish and delightfully humorous and witty. The son was an officer in France. The elder daughter, Betty, engaged to an engineer, was quite an advocate of women's rights and knew her history and politics. Dorothy, fourteen, was a charming little girl who showed to advantage her English upbringing. I spent many pleasant hours with them, out for drives, at a theatre and in their home and garden.

Dr. Tory wrote me when he heard of my accident; he said he had little news from the Battalion and wondered what was happening to it. So I wrote him a long account of our activities in rhyme. He was very pleased and told Helen some of the lines were as good as Scott, such as a description of our convoy crossing the Atlantic which included these:

"With port-holes closed, no lights were seen
Except a track of silver green,
For from our laws the moon was free
To trace her pathway on the sea."

Good old Tory, he was many things, but not an authority on poetry.

Helen arranged a Friendship calendar for me with a page for each day. The pages were made up by friends and each contained a letter or sketch or snapshot or verses and was signed by the sender. I kept to the rules, read a page a day and enjoyed them all. The mails were not very regular and I might get two or three letters at a time from Helen or from home.

From Eastbourne, where I had been looked after so well, I was sent to the Perkins Bull Hospital for Convalescent Canadian Officers, Putney Heath, London S.W. The Hospital was in the home of a former Toronto lawyer, William Perkins Bull, K.C. and his family. The house was once the home of the famous Antarctic explorer, Sir Ernest Shackleton. The Hospital had an Army Medical Officer, a matron, a nurse and some fifteen V.A.D.'s. The V.A.D.'s were attractive girls, mostly English, from wealthy homes in the area and half a dozen Canadians. With accommodation for some thirty officers, the Hospital was run on the principle of an ideal democracy. Meals and service were excellent and attention to entertainment good. Tennis and dancing with the V.A.D.'s at some of their spacious homes were popular with those who were able to take part. Cars were made available to take patients to concerts and afternoon teas. From Sir George Drummond's box in Albert Hall, we heard a Chopin recital by the well-known pianist, Vladimir de Pachmann. He sometimes talked quietly to himself while playing. And from Earl Grey's box, we listened to Sir Thomas Beecham and his orchestra. In the Royal Automobile Club, another chap and I sat at a table with Lady Perley, the wife of the Canadian High Commissioner and Countess Clyde-Williams for afternoon tea with good conversation. There was quiet background music and we looked on as the lovely Lady Diana Manners and others of her set passed tea and sandwiches to ordinary mortals in uniform.

The Medical Officer had a neat iron brace made to keep my ankle from turning over sideways, yet free to move otherwise; it was a great help. Charlie Hurlburt, a Medical Officer from the 11th Field Ambulance, was also a patient at Perkins Bull. He and I together got to know something of the places, buildings, and institutions which made London the great city it is. Charlie and his wife were good friends of ours in Edmonton after the war.

Col. MacKay, Brock, MacEachran, Burgess and others were still with the 19th Reserve Battalion at Bramshott. I was told that the British Army needed officers with mathematical training for the Heavy Artillery. I thought that the artillery would be easier on my leg than the infantry and offer more active service than a reserve battalion. So I went down to the War Office and asked to see Brigadier General Auckland Geddes, Director of Recruiting, and expected to wait an hour or more. (I knew that he was a doctor and had been on the Medical Faculty at Edinburgh and then at McGill where he took an interest in the C.O.T.C.). In a few minutes a young girl with pigtailed showed me to his office. Briefly I told my story. After talking for a little while, with his foot on a chair and his elbow on his knee, he told me to send in an application for transfer to the Royal Artillery. As I was leaving, he asked about a reference. I said that Dr. Andrew Macnail (whom he knew) was my mother's cousin and that I would ask him to send one. Dr. MacPhail was then a Captain in the C.A.M.C. somewhere and did not get my letter until after I had been accepted for Artillery School. However, he wrote to Gen. Geddes and recommended me highly. (Later Sir Auckland Geddes was British Ambassador to the United States).

About the middle of August, a Medical Board gave me three weeks leave

to be followed by a month of light duty without marching. On the advice of the Red Cross, another McGill man and I went to "Brewlands" in Perthshire, Scotland. It was a large country house opened for "Colonial" officers on leave, and had a dozen or so from Australia, New Zealand, South Africa and Canada. Good food, congenial company, fine weather and beautiful country with the purple heather on the hills made it an ideal place for a holiday. We enjoyed, too, the traditional friendliness and hospitality of the Scottish people.

On Sunday I went to the little Presbyterian church and found the service just like many I had heard on P.E. Island. I mentioned this afterwards and someone explained that the regular minister was away and that the service was taken by Sir Andrew Fraser who had spent thirty years in India and retired as Governor of Bengal (a good example of the lasting qualities of early Scottish training). He had a fine house filled with treasures from India and he invited us to use his billiard room any time we wished.

I reported back to the 19th Reserve Bn. at Bramshott for "light duty without marching". Orders and a travel warrant had come through for me to report to the Royal Siege Artillery School at Horsham by September 16th.

The Artillery course at Horsham lasted five weeks. The maths were easy for me but I had to learn a good deal of theory and practical work with the guns. As a result of heading the class, I was sent to the Central Siege Artillery School at Lydd and recommended for a Battery Commander's course which was to start in about ten days.

At Lydd, Captain Coombs and I were given a comfortable room with a fireplace. He was with me at Horsham and was awaiting a call to France. No-one paid much attention to us, so each evening we got a copy of the shoots for next day, worked them out and checked our work after each snoot took place. From well behind the gun crews, we could see the shells sailing through the air for a few seconds after leaving the guns. It was all good experience.

The Battery Commanders' Course was given by Major Harrison who was an excellent instructor. We had two weeks of lectures at Lydd and two weeks of firing at Salisbury Plain. A half-dozen Majors and Captains, including myself, were quartered at the Crown Hotel, quite close to Salisbury Cathedral with its graceful spire. Some of them were Regular Army men with tales of life in many lands. With the rest of the class, we drove every day in a lorry the 18 miles to the ranges and back in time for discussion of the day's work before dinner. Shoots for the following day were given out with each one assigned to some one in the class who became the Officer in charge of the shoot. After dinner, we worked out the ranges and angles of line and elevation for the gun.

The guns were six-inch howitzers about five miles from the targets. The Officer in charge of a shoot was in an O.P. (Observation Post) some 500 yards from the target and the others in a trench near by. The O.P. was connected with the Officer at the guns by signallers with telephones. I had charge of several shoots which turned out quite well.

Near the end of the course I was given a rather difficult shoot, known as a line O - T shoot. The line from the O.P. to the target made an angle of about 40 degrees with the line from the gun to the target and to the right of it. The target was a large cube of sandbags beyond the crest of a

rise in the ground. The top of the target could be seen from the O.P. but not the ground around it and it was difficult to tell just where a shell fell. While the class was walking to the O.P., I happened to be behind Major Harrison and a senior officer who said: "Going to take another shot at the old sandbag target - we'll never hit it." Harrison answered: "What will you bet Macleod doesn't hit it this afternoon?" and a bet was on.

It was a fine afternoon with a light wind blowing in the direction from the target to the gun. I followed the instructions for this type of shoot, gave the angles for line and elevation, that I had worked out, with the order to fire. The first shell exploded beyond the target, the smoke drifted slowly back between me and the target, showing the shell was to the right of the gun to target. Next order, 40 minutes more left, same elevation and the smoke drifted back to the left of the target. Next shot, 20 minutes more right and the next, 10 minutes more right and the smoke drifted back left and right of the target. For the next shot, the range was shortened and a corner of the target came off. The order was repeated and when the smoke cleared away, the target could not be seen. At the discussion later, Major Harrison said: "Now you see it can be done." To which I might add: "With a little bit of luck".

Before leaving Salisbury, I got a letter from Dr. Boyle asking if I would join him in Asdic research for the Admiralty Board of Research, and if so, the Board would put in a request for my transfer from the Artillery. I showed the letter to Major Harrison and asked what he thought. He said it would be interesting work, no doubt, but that I was one of the best officers in the class and he would not like to see me leave. I stayed with the Artillery.

When the course was finished, we reported to Aldershot and were given leave "awaiting posting". I went to Bramshott where the 19th had been changed to the Young Soldiers Battalion still under Col. MacKay. I had quarters with MacEachran and rather than tour the country, I preferred evenings with him and the Colonel around a cosy fire with tea and toast and talk. Besides, board and room were free and the meals were good. I reported to the Medical Board that I was fit again and got marked as such. Then Capt. Lloyd MacLaurin, Army dentist, filled two or three teeth for me. (He was our family dentist in Edmonton after the war.)

Burgess and I took long bicycle rides in the country around Bramshott. He was an architect and particularly interested in church architecture. In his quiet way, Burgess would point out the distinctive features of each church we visited and so introduced me to some elements of architecture.

A couple of times MacEachran and I went up to London to see a few shows and do a bit of shopping. The first time there was an air-raid warning on. We took the Underground from the railway station to the Strand Palace Hotel and found the underground stations full of people who seemed to be mostly foreign but quite happy in the warmth and safety of the underground. I had been in London a few times before when there were air-raids on. They did some damage and killed a few people but were nothing compared with those in the Second World War. Of the shows we saw I liked Peter Pan best. It was beautifully done. More than half the audience were children and their evident delight and at times unrestrained laughter was something to remember even if we could not stay in the Never Never Land.

From London we took a train to the Canadian Military Hospital at Orpington to see some old C Company men there. It was a large hospital with room for 2500 patients. Sgt. W.A. Elliott, with a wound in his lung which had abscessed, was the only C Company man confined to bed. They were afraid he would not get over it. The other lads had decorated his room for Christmas and Mrs. Oliver asked me to send flowers and a plant from London for him. She was the wife of Capt. Oliver of B Company and was working as a V.A.D. Around New Years I got a much appreciated parcel from Helen. Among the treats was a box of stuffed dates which I sent to Sgt. Elliott. Mrs. Oliver wrote that he was crazy about dates and raisins and they were almost impossible to get. (After the war, I met Elliott in Edmonton, looking quite fit again.)

In another parcel, Helen sent me a knitted woollen vest that she had made. I wore it a lot overseas and, at times, for years after. In another parcel she included a little leather covered loose-leaf book to be used as a diary. I wrote in it fairly regularly and am referring to it and to letters I sent to Helen, in writing about my years overseas.

Early in January, I was gazetted Captain in the Royal Artillery as from October 20th, 1917. Near the end of the month I received my embarkation orders, went to Southampton and stayed there overnight. It was my last night in England for some time.

FRANCE and BELGIUM

The next morning I went on board the "Archangel" which left Southampton about 8 p.m. with no lights showing. The sea was calm with a little fog. About 3 a.m. a British destroyer ran into the Archangel and cut her open near the bow. Water came rushing in but the engine room remained dry and, under full speed, she reached shallower water near Havre before she sank to the bottom with two decks above water. Early in the morning, two smaller ships took us to the dock at Havre.

Many of the officers' kits were soaked with salt water. My bed-roll must have been on an upper deck as it was quite dry. This was fortunate for it had my revolver, artillery field glasses, prismatic compass and clothing all rolled up in the Hudson's Bay blanket inside.

We had a day or two of gas drill in Havre before being sent by way of Amiens to the British Fifth Army. I reported to the 18th Corps Heavy Artillery Headquarters in Ham. The Staff Captain said: "We have a recommendation here for you". He rummaged through some orders and then read out: "Recommended for command of a battery after a short period in the field as second-in-command to gain experience". I was pleasantly surprised for it was the first I had heard of it, but I seemed to recall a certain line, O - T shoot at Salisbury Plain.

I was attached to the 93rd Siege Battery R.G.A. for about a month to replace their second-in-command, Capt. Adams, while he was at Artillery School. The Battery was in the line just east of Fontaine-les-Clères. The officers were a fine lot and their quarters comfortable. I shared a hut with Lieut. Lockwood who did some sketching and water colors and had a few

good books around. My bedroll with a number of others went astray somewhere on the way to Amiens. It turned up safely at the Battery a few days later.

One evening the Major took me to the forward position where two guns were stationed and to the Observation Post from which we could look across to the enemy lines. It was a fine evening, the birds were singing and a rabbit was sunning himself beside his dugout not far away. The front was relatively quiet and had been for some time. Each side continued to send out reconnaissance planes in the hope of spotting battery positions by photographs and noting any troop movements. They were met by anti-aircraft fire which was not very effective in those days. From time to time, the 93rd had orders to fire 100 rounds or so on an enemy battery that had been located. But generally it was the calm before the storm.

About the middle of February, the Brigade was given two weeks out of the line. So one evening we put the guns out of action and by midnight were ready to move. Our route was through Nesle and Roye to the little village of Champien. As we drove through Nesle in the moonlight, the only sound was the noise of transport rattling over the stony streets and the echo from ruined and deserted buildings. It gave one an eerie feeling of a city of the dead. Everywhere in and around Champien were signs of wilful destruction by the Germans; houses wrecked, fruit trees cut down and farm machinery smashed.

The four batteries of the Brigade had a series of football games and other sports in competition with each other. Lockwood had time for his sketching and under his inspiration I made a little water color of the village street. I sent it to Helen; she had it framed and has it still. I regret to add that Lockwood was killed near the end of the war.

There was a French airfield nearby and the Major and I made friends with a couple of flyers. One of them was a University man who spoke English very well. They had a two-seater biplane with a fuselage about the width of an armchair. In it I had my first aeroplane flight and a good view of the German lines. Larger planes were used for bombing raids.

Troops were on the move all around us; a cavalry regiment that took hours to pass, a medical unit with thirty ambulances, and lines of lorries going through the village, all in preparation for more active war.

Early in March, the 93rd moved to Ham for a few days on the way back into the line. While there I was posted to the 118th Siege Battery, R.G.A. as Second-in-Command; and hoped that I would find it as congenial as the 93rd. The 118th was only eight miles from Ham and two lieutenants drove me over to it. As I was with this battery for over a year, some account of it is in order.

The 118th Siege Battery came from Edinburgh but the personnel had changed so much through casualties and replacements that it was a mixture of English, Scotch and Irish. The only original officer left was Lieut. R. Wilson, who was given command of the battery with the rank of Acting Major. Lieut. Wheildon and 2/Lieuts. Bottomley, Fryer, Gough and Roebuck were English and 2/Lieut. Gorman represented the Irish. I was the only Canadian. There were two 2/Lieuts. Lambert and Young in charge of the supply column. Wheildon, Bottomley and Fryer were older than the rest of us, Gorman and I about the same

age and the others a bit younger. Fryer was the only regular soldier.

The six guns of the battery were 9.2 howitzers which means that the shells were 9.2 inches in diameter; they weighed 290 pounds each. The guns were accurate and very effective in counter battery work at a range of five or six miles. Their big disadvantage was that it took so long to move them to a new position. Each gun weighed about fifteen tons. The gun barrel, the cradle and the bed-plate made three loads that were coupled together and drawn by a large caterpillar tractor. There were some thirty lorries for ammunition, stores, rations and personnel. The battery had about 230 men with another 100, including lorry drivers, in the supply column. The men in the battery were divided into six sections, one for each gun with a lieutenant in charge.

The 118th Battery, with three six-inch howitzer batteries formed the 65th Brigade, R.G.A. The six-inch batteries were the 115th, the 202nd, and the 212th. They had four guns each that fired from their wheels and were thus more easily moved. When I joined the 118th, the brigade was in the line near Villeveque west of St. Quentin, which was held by the Germans. Our main position had four guns and the forward position with two guns was in a quarry near Atilly about two miles in advance. A German attack was expected and the Brigade was preparing reserve positions near Foreste. I was put in charge of this work where I had four lieutenants (one from each battery) and 120 other ranks.

The Artillery General had the reputation of being something of a terror and I was a bit concerned when he turned up one fine evening to see what we were doing. After criticizing some gun emplacements, he said: "By the way, where do you come from, Northern Ireland?" I said: "No, Sir, I come from Canada." He was surprised and asked what I did there. When I told him, he said: "I wanted to be an engineer but I couldn't do the damn mathematics." I heard no more about gun positions and he talked quite pleasantly as we walked to his car on the road. I have been told that the Northern Irish way of speaking is one of the best in the language. Months later I was telling some yarn in the Mess, when I stopped and said: "What are you smiling at, Gough?" "Do you know, Mac", said Gough, "I was just thinking that you speak like a white man now," then he added: "But you never did say 'Tronta'." Several dialects were heard in our mess and at times some good-natured banter.

Early in the morning of March 21st, we were wakened by a heavy bombardment. The great German offensive against the British Fifth Army had begun. Foreste was shelled and the light railway put out of action. A despatch rider brought me a message to have all men returned to their batteries as soon as possible. Two or three lorries had us all back by noon. Fritz was shelling the rise behind our battery with heavy guns. The Major told that Gough and a young lieutenant, who had just joined the Battery, were at the forward position and suggested that I had better go forward and take over. The telephone lines had been cut early in the morning. On the way I met groups of wounded men heading back to the dressing stations and saw the odd one who would fight no more. I could not get through the village of Atilly because of enemy fire, but I circled around it by the railway and reached the forward section in the quarry safely. Early in the afternoon a bit of shrapnel struck the young lieutenant on the cheek; the wound was not deep but some blood dropped on his tunic. "Look out", said Gough, "you're spoiling that nice new uniform". (What a way to talk to a hero!) We put a dressing on the Lieutenant's cheek and sent him back to a regular dressing station.

The signallers mended the telephone line and we got some new targets to take on before it was broken again. The infantry were not far in front and Capt. Montford of the Ninth Royal Scots made his Company Headquarters in our quarry with his little flag at the entrance. He was a cheerful Scot, on the best of terms with the Kiltie runners who came in to report.

A German plane came over and ranged a heavy gun on the road behind us. The first two shells came so close that we thought they were aiming at our quarry guns, but their purpose was to crater the road and stop traffic. The shells going overhead sounded like express trains and gave us ample warning to take cover from the earth and stones that landed in the quarry. If the ranging plane had been British, the observer would likely have said: "While we are here, let's drop one in the quarry and clean that battery out." But not Fritz; he was given a job to do, he did it well and then went home - much to our relief.

In the evening the guns quieted down; our men went to get some rest and Gough and I were ready to turn in too, when a messenger arrived with orders to put the guns out of action and return to the main position. We got the men up, let the air and oil out of the guns and buried the breech blocks. The road behind us was cut across completely by a huge crater. We could not get a loaded trench cart past it but had to carry things around and reload. Fritz had done a good job of blocking the road. We reached the rear position about one a.m. and had a few hours sleep.

In the morning, orders came to put the forward guns in action again, so I went to Brigade H.Q. to get some targets. While there, the Adjutant heard that the Germans were near the quarry and he gave me targets for the rear guns instead. British planes prevented the German ones from coming over to range their guns but many shells exploded near enough to give our battery a shower of earth. Before the Brigade H.Q. retired to a new position, the 118th was given orders to fire as long as possible, then put the guns out of action and retire too. I was in the Ninth Royal Scots Battalion H.Q. when Col. Green got orders to retire to their prepared battle line a mile or so behind us. We did not leave our guns until the infantry began retiring through the battery position in the late afternoon.

Before the German offensive, the Corps Artillery H.Q. made a park of all lorries except one ration lorry for each battery. The idea was that lorries could then be allotted when and where required. It didn't work out that way. If we had been able to get even one or two lorries, we could have saved a lot of expensive equipment as well as our own kits. As it was, I took my trench coat and haversack filled with necessary things, my field glasses and prismatic compass and gave my revolver to my batman to look after. I had to leave a good bedroll, British warm, field boots and my best uniform. Didn't have time to change uniforms but I took from the one I left, a little sorority pin that Helen gave me in Edmonton. We have it still.

We retired, with the Major in charge of one-half of the Battery and I had the other, but we kept in contact. As we marched through the new infantry line, a German shell or two came over and Capt. Montford was telling his men to lie down. When I left, he said cheerfully: "Well, I wonder if we will meet again." Three weeks later I was grieved to read in the list of "Killed in action" the name of Capt. Montford, A.C. Ninth Royal Scots. We

got off very lightly in the Battery with two men killed and one or two wounded.

After we left Beauvois, a dozen or so British and German planes were having a fight overhead and there was a good deal of anti-aircraft fire. I had the men take cover in a thick hedge beside the road. Two German planes came down; one landed smoothly near the hedge. The Sergeant-Major took the young pilot prisoner and we handed him over to French authorities in the next village. The men were not in the least hostile to him. After midnight we crossed the bridge over the canal to Voyennes and went to sleep on the floor of a schoolhouse. We left Voyennes at seven in the morning, just before the British Engineers blew up the bridge and some Germans arrived on the other side of the canal.

At Nesle, in the afternoon, someone gave the order to clear out as the Hun cavalry were entering the town. The order spread quickly and several hundred men from a dozen different units disappeared down the road. My batman and a lot of our men were among them. A few days after, in another town, a young gunner by the name of Chapman, brought me my revolver that he had found on the street in Nesle during the exodus. My batman must have dropped it there. By mutual agreement, Chapman became my batman and he proved to be a good one for the duration. We had no fixed address at the time and some of our men took a week or more to find their way back. A few bombs were dropped on Nesle during the night.

For the next ten days we moved from one town to another; were sent to ammunition dumps to load lorry after lorry with shells for the guns still in action; sometimes marched for half the night and slept in our clothes when and where we could. When the gunners grouched about becoming a labor battalion loading lorries, Gough would come out with his usual: "It's all for Mr. Windsor". One cold night, the Major kept tossing in his sleep and I heard him mutter: "We will have to burn or blow up everything for we can take damn-all with us". He was living the retreat over again. In Moreuil we officers were allotted billets in a nicely furnished house with gas and electricity. The young woman, whose husband was in the army, was just leaving with her old father. She said that she had put out clean sheets for us and that we might as well take what we wanted for the Germans would take everything if they got that far. I hope they didn't. We took nothing; we didn't even use the sheets. Before nightfall we had orders to move again and had two or three days in St. Segree where British troops had not been before. The men had good quarters there and our billets were in the Chateau where the people were exceptionally good to us. After the past ten days or so, it was the height of luxury to have a warm bath and a bed with clean sheets and pillows.

From St. Segree we were taken by lorries to Hamicourt where we had about two weeks of peace and quiet. Perhaps a quotation from my little note book will describe it best. "This is a perfect day. The fields are green with growing grain. The trees are coming out in leaf. The daffodils and violets, daisies, buttercups and dandelions are all in bloom and the trees in blossom. The birds are busy and singing beneath a clear blue sky whose depth and blueness are only increased by a few fleecy white clouds above the horizon. Everything in the country looks so clean. Perhaps it is on account of our recent contact with war that nature and the world seem so beautiful and peaceful today."

With the help of a motor bike, I found the 93rd Battery not far from us. It was good to see them again and get a lot of mail; four letters from Helen, two each from Mother and Dad and one from Hattie. It was a treat after no news for weeks. Through Capt. Burgess in Bramshott, I had sent a cable to Helen that I was well and to tell the family. It was several weeks before I heard that it had arrived.

Towards the end of April we moved by lorries to Wanel and were gradually re-equipped with six new 9.2 howitzers, caterpillar tractors, lorries and stores. Then feeling once again like a real battery we moved to Longpre near Amiens where we had billets for a couple of days while we were putting the guns in action near La Neuville, a small suburb of Corbie. The weather was perfect and from the garden behind our mess we had a good view of the city of Amiens and its magnificent cathedral, one of the finest examples of Gothic architecture in the world. Occasionally the Germans dropped a shell in the city which they were unable to take in their great offensive. The other batteries of our brigade were also in action not far from us and the Australian Corps was in front. They had already taught the Germans to treat them with respect. I registered the guns from a forward O.P. with good results. While registering the last gun, a shell exploded nearby and slightly wounded the officer on duty there.

The men had good quarters in buildings near the guns. Our cottage, with curtains, rugs and beds, had flowers and vegetables planted in the garden around it, and a little brook meandered past on its way to the Somme. The front line was fairly stable while we were there but the artillery on both sides was active. As soon as our guns were registered, they took part in lively bombardments at all hours of the day or night, sometimes in short bursts of rapid fire and sometimes in more deliberate fire for longer periods of time. In addition we had our counter-battery shoots, generally in the afternoons, in which 100 to 200 rounds were fired on an enemy battery position to do as much damage as possible. All the various kinds of fire were smoothly controlled by Corps Headquarters where they had a much clearer picture of the whole situation.

The Major had a lot of administration work to attend to, so I took over a good deal of the shooting which I preferred to do. Most of the counter-battery work was done with the aid of an observer in an aeroplane along with the pilot. Details of the procedure and instruments used are rather complicated but from long practice everyone knew exactly what to do and it was a thrill to have a shoot carried out with precision and good results. The officer-in-charge controlled the shoot from a Battery Commander's Post (B.C.Post) which was connected by phone with battery wireless station and by two or three phones with the guns. The phones were operated by the signallers. The target location and time of the shoot were given in orders of the day. The officer-in-charge located the target on the battery map, measured its direction and range from the guns and then calculated the angles of line and elevation, making corrections for charge and air temperatures, for wind velocity and direction and for barometric pressure. It was always interesting to see how close the first shot from each gun was to the target. When we were in Artillery School, Major Harrison taught us the French system of ranging as well as the British and I always used the French system in France and Belgium. It was simple and direct and kept the ~~mean point of impact on the target. // report it to two or three of the lieuten-~~ mean point of impact on the target. I taught it to two or three of the lieutenants who wanted to do some shooting and we generally had good results. There

was healthy rivalry among the gun crews to see which gun got the best results in the shoot.

The following figures give a good idea of the accuracy of 9.2 howitzers. They were taken from a report, in Corps H.Q. orders, of a shoot in Flanders, July 16, with my name given as the Officer in charge. Ranging rounds, 27; 2 within 25 yards, 10 within 50 and 5 within 100 yards. Total rounds fired, 100. Fire for effect very good, all within 100 yard circle. M.P.I. (mean point of impact) well on target.

A few days after we arrived, a Hun plane flew quite low along the valley and soon after their guns opened up. The first shell struck the cookhouse by the horse-lines near us and killed four men and wounded seven. Then they strafed the village and our guns. When things quieted down, Roberts and I went out to see what damage had been done. (Cecil Roberts was a young second lieutenant, just out from England, who had joined the battery. He was quite a talker and often rather witty.) When we got near the guns we heard another shell coming and I slid to ground by a tree and Roberts did too. After the shell exploded, he raised himself up on his hands and looked around, too interested to be scared. Afterwards he told the Major that when he saw Mac shamelessly drop to mother earth, he thought he had better do the same. That night the fertilizer factory made a spectacular fire after being hit by a shell. A few more came over and our guns all along the line replied with a heavy bombardment for half an hour. A night or two later the Germans shelled a lot and sent over some gas. The 202nd Battery had quite a few casualties with one officer killed, and the 115th in the village had four men killed and seven wounded. By a strange coincidence the same numbers as in the cookhouse a few days before. Our battery had only one man wounded.

On some nights the Germans bombed Corbie and the area around it. The anti-aircraft guns made a lot of noise even if they were not very effective. But there were long quiet hours as well. Some of the officers played a lot of bridge; others, including myself, did a good deal of reading, and there were pleasant walks in the country. The Padre even had Sunday evening service at La Neuville and the sound of guns mingled with the gunners' singing of "Lead, Kindly Light." Thus the days passed till the Brigade was ordered to move to Sorel for rest about the tenth of June. Our place in the line was taken over by the 93rd which was also a 9.2 howitzer battery and the one I was with before the 118th. A number of their officers and men had the flu when they moved in.

Sorel is just south of Abbeville, about thirty miles northwest of Amiens. On our way there we stayed over-night at Longpre near Amiens. We had a nice quiet time at Sorel. The weather was delightful and a stroll along the tow-path of the canal was always lovely. The odd barge merely added to the peacefulness of the scene. Gorman, Bottomley, Gough and I went to Mers for a couple of days at the Hotel Royal by the sea. The place was almost deserted but the meals were excellent and the surroundings attractive. On June 26th, our Brigade left Sorel by train through St. Pol to Esquelbecq in Flanders. Three days later our guns were in action in two positions about two miles south-east of Poperinghe.

The day before we left Sorel, I got a bit of the 1918 flu which I described at the time as a combination of headache, fever, cold, indigestion,

rheumatism and general fatigue and, like a lot of things, blamed on the Germans. I stayed in the house till the next evening when the despatch rider came with a side-car to take me to the train. We travelled all night and most of next day in a rather cold and draughty train with every window broken. On the first night in the line, the nose of a shrapnel shell came through two layers of corrugated iron into a hut, split the mess table and buried itself in the pans below with a terrific noise. I was there at the time and perhaps the scare did me good for I was all over the flu in a day or two and feeling fine.

In Flanders we were in the Second British Army which was composed of the 2nd and the 19th Corps. Our Artillery Brigade formed part of the 19th Corps which had also been in the Fifth Army. We, of course, knew nothing of the grand strategy behind these moves but a few words about the general situation, as we came to know it later, may not be out of place here.

Following the Russian Revolution and the collapse of the Russian armies, the Germans were free to move over thirty good divisions to the Western Front. The submarine campaign had failed in spite of enormous losses of allied shipping and their only hope of victory lay in the destruction of the British and French armies before the Americans became effective. On March 21, 1918, when the Second Battle of the Somme began, the German objective was to capture the important railway center of Amiens and force the British and French armies apart. The main attack was on the British Fifth Army which held a front of 42 miles with only 14 Infantry divisions and the equivalent of one division in Calvary or a total of about 210,000 men. Against these the Germans had 43 divisions numbering 650,000 men and 6800 guns. The Fifth Army was forced to retire but, with the help of British and French reserve divisions, the Germans were halted and the line stabilized about seven miles east of Amiens by April 6th. On March 28th, Ludendorff attempted to clear his north flank by a determined attack against the British Third Army in front of Arras, but this also failed. By the end of March, the Germans had thrown in 100 divisions (1,500,000 men) against 35 British divisions and 15 French divisions. The British loss was estimated at 200,000 men and the German about the same.

On April 9, the Germans opened an attack in Flanders where they captured Messines Ridge and Kemmel Hill and endangered the defences of the Channel Ports. But here too the British and French fought back with great determination and the attack died down. On May 27, the Germans again attacked the British and French in the south and reached the Marne on a ten mile front but were stopped on June 13-14. On July 4, the Australians in front of Amiens made a surprise attack with effective use of artillery, tanks and planes, and captured the village of Hamel. Then on July 18, French and American divisions delivered a sudden counter-attack between the Aisne and Chateau-Thierry. They captured 20,000 prisoners and 400 guns and forced the Crown Prince to retreat across the Marne. By this time the Germans realized that their great offensive, which held so much promise of success, had failed and the steady pressure of allied attacks all along the line began in an effort to end the war before another winter set in.

From the time we moved to Flanders our guns were generally in action (except to move forward) until after the Armistice was signed. On July 4, Gorman and I went by car to St. Omer to get some things for the mess and from the top of Cassel Hill we had a fine view of the country for miles around. The next day

our forward position was shelled rather badly; one gun was put out of action and Gorman was wounded, though not seriously, and went to hospital. The following night the position was shelled again. One shell struck the entrance to D Sub-section dugout, killed Sgt. Anderson, Bdr. Cruikshank and three gunners, wounded two others and shellshocked three. About a dozen other men were dug out unharmed. We selected a new position for the four forward guns about a thousand yards north of Westoutre. On the evening of July 7, Wheildon, Clegg and I went to the new position and during the night, detachments from these guns put down the beams and bedplates. It was a fairly quiet night. The next evening we went forward by car and I will copy an account of it from notes I made a few days later.

"It was a fine evening and we had dinner under the trees while Fritz shelled the near slope of the Sherpenburg (over a mile away). Then the dark clouds rolled up and made a stormy sunset. Soon after, the rain and thunder and lightning started, to last till nearly dawn. About 10:30, the lorries came up with men and ammunition to be unloaded. The roads were muddy and slippery. Lorries slid into the ditches and the language of the drivers was a little worse than usual. Then the caterpillars came along with the guns and carriages. The crews had to use wheel purchases as the wheels would slide off the planks into the mud. The flashes of lightning blinded the men and twice Fritz shelled the road near by and splinters made the chaps take cover for a time. Our artillery opened up too and gun flashes and reports mingled with the lightning and thunder. On the road beside us, the horse transport waited for the battalion coming out of the line, and waited for hours. Some infantry coming down rested there and seemed as happy as could be. The sky cleared and dawn began to show in the east. The birds started to sing and our aeroplanes could be heard coming out. Finally the guns were in and covered and tired wet crews trooped off to sleep. The sun came up, a beautiful morning, and made one's views of life much brighter. While these chaps were working there, another party from the battery were burying five of their comrades who were killed two days before. It is these nights up, watching the infantry creeping to the front in the dark and the load after load of six-horse teams with ammunition for ^{the} field that make one realize the awful amount of labor expended in war. The next night we put up excellent canopy camouflage. Fritz shelled several batteries around us and put some heavy stuff on the road behind us, completely blocking it with armour piercing shells. Two bases of 11 inch shells came back to us over 1000 yards." (This move was worse than most.)

Gough, Clegg and I stayed at this new forward position for a week. The infantry made some successful raids supported by artillery. Ammunition was plentiful and H.Q. introduced what were known as shell storms. All the batteries in the Corps opened up suddenly for two minutes only at pre-arranged times and targets during the day. The intervals were varied and we learned later that these shell storms worried the enemy more than regular bombardments.

The Padre had lunch with us one day and told about the Chinese Labor Bn. that had a few high velocity shells and had one or two killed. They made out a very neat petition in Chinese, saying that "At home we are farmers and never before have we heard such great noises nor seen such awful explosions" and requesting a more peaceful place in which to work.

On the evening of July 16, Wilson, Bottomley, Fryer and Roberts came to the forward position for a week and we three went back to the rear position

which was more restful. Fritz was shelling a bit that night and a nice glossy black dog came into our room looking rather lonely. I spoke to him and he jumped up on my bed and lay down beside me quite contented.

The ground in Flanders was soft and we had to put extra platforms crosswise under the rear of the guns. They were made of wooden planks 3 inches thick. The finished platform was sunk in the ground and measured 18 feet by 9 feet and 9 inches thick. After firing for some time, the platforms would be smashed to splinters. At the rear position we put a new platform under B gun and strengthened it with 20 ft. steel rails. No more trouble. That night, the Corps had some ten minute bombardments at intervals of an hour or two. It was a lovely night with a clear sky and full moon. All was still as we waited with synchronized watches for the opening time. Then with a crash, all the guns of the Corps started firing. In ten minutes time, the noise and flashes stopped as suddenly as they began and all was silent again. They were thrilling performances but I am sure that Fritz did not enjoy the music. The streams of red, white, yellow and green signal lights he sent up, did not indicate applause.

We had good quarters in farm buildings. The officers' mess was in the farmhouse and I had a little room at the back of it. The house was on one side of the farmyard with stables and other buildings on the opposite side about 20 yards away. The morning after the ten minute bombardments was sunny and quiet. But about 9 o'clock, five shells came over aimed at the cross-roads. One of them exploded in the farmyard just 14 steps from the mess. It blew the windows, sashes, glass and all into the room and shook the dust from the beams in the ceiling. I was in my room with the door to the mess open and Chapman, my batman, came rushing into the house to see if I was hurt but I didn't have a scratch. There were four horses in the shed opposite and its roof was blown off but the horses were unhurt. It was an 8 inch shell and fortunately sank into the ground before exploding.

We spent the next week at the forward position where, between shoots, Gough and I built a cozy little dugout. We could have had the work done, but preferred to do it ourselves. We chose a large shell-hole in the shelter of a few trees, filled in the center for a floor, $3\frac{1}{2}$ feet below the surface and squared the sides for walls. Then we put on a C-type English shelter and closed the east end with French cartridge boxes filled with earth to make a splinter proof wall. Steps led down from a little door in the other end. We made a floor of groove and tongue boards that some Belgian had stored in the attic of a ruined house nearby. A dresser drawer from the same source made a table by turning it upside down and attaching legs. We covered the shelter with earth, transplanted daisies and poppies in it and were quite pleased with our accommodation. I wrote at the time: "Our standards of comfort, peace and safety are not so exacting as in normal times and, as all things are relative, life under these conditions is enjoyable."

There was a small workshop in the battery and I put in some spare time making souvenirs for a few friends. Ashtrays could be made from the bases of French 75 brass cartridge cases. I made some paper knives in which the blade was cut from a French 75 cartridge case and the handle made from a British, French or German rifle cartridge. I carefully removed the bullet, emptied out the explosive, put the bullet back and soldered it in. Then with a hack-saw I cut a slot in the bullet for the blade and soldered it in place. These paper knives

were then engraved by dipping the blade in melted candle wax, writing in the wax and etching the brass with nitric acid. Helen still has one of these ashtrays and paper knives.

At the end of the week, the two rear guns were brought forward but we still kept the rear shelters where the men, in relays, could be taken for a rest. One day there, the Sgt. Major brought two men to the Orderly Room, charged with being absent from roll-call. I gave them a reprimand but later found that one had was a regular soldier with a clean conduct sheet. I had the Sgt. Major bring them back and told them that I would change the reprimand to a warning which didn't have to be entered on the conduct sheet. The S.M. was annoyed, but we had no more complaints of absence from roll-calls. In civil life, he was a deep sea diver and tough enough to make a good Sgt. Major. One warm sunny afternoon in the line, Gorman and I were strolling near a gun where the men were lying in the sun and the shells that had come up the night before had not been cleaned and stacked. The S.M. turned up and we heard him say: "That's no way to leave shells around a gun." No one moved. So the S.M. roared: "Am I talking to my bloody self?" The gun crew were galvanized into a hive of activity and we discreetly disappeared.

We did a lot of firing and counter battery shoots. Silent batteries were moving in and there were other indications of an impending attack. We learned later that under cover of all these activities in Flanders, Sir Douglas Haig was secretly assembling his troops farther south. The 4th Army with the Australians were in position just east of Amiens. The Canadian Corps and some 400 tanks were brought in by night. Silent batteries increased his artillery to 2000 guns and the First French Army was put under his command. The sudden attack on August 8 took the Germans completely by surprise and their lines were thrown into confusion. The French Army to the south joined in. From August 8 to the 12th nearly 40,000 German prisoners and 400 guns were captured. The line was advanced about 12 miles and the pressure on the Germans maintained.

About the middle of August, Gorman came back from hospital and Major Wilson left for a six weeks course in England and leave. In his absence, I was in command of the Battery.

During one aeroplane shoot, a German shell destroyed our wireless mast but we got the observer's signals through Brigade H.Q. and continued the shoot. A night or two later a shell landed some ten yards from the dugout where Roberts and I were sleeping. We decided to vacate the place till the shelling stopped. When we woke up in the morning, we didn't feel like breakfast because fumes from the shell had seeped into the dugout. I asked Fryer if Fritz got him out during the night and he said, "No, if any shell has my number, it will find me so I just stay where I am". The old soldier's philosophy. One afternoon the airmen came up to talk over a shoot. We asked them to stay for tea and the Observer said he would get the wind up if Fritz started snelling though he didn't mind it in the air. I told him we often looked up at their plane surrounded by little puffs of black smoke and were thankful to be on the ground. I always felt safer in our own battery position than in any neighboring territory.

Corps H.Q. had planned to send a few sergeants to Cadet School to train as Second Lieutenants and, by appointment, I took Sgt. Jamieson to H.Q.

following a recommendation. The General looked over his papers and in a rather ponderous voice said: "What school did you go to, Sergeant?" I forget the answer but the General thought it over for a while, then turned to the Adjutant and said: "I don't remember ever hearing of it, do you, Smith (or whatever his name was)?" I felt like saying - He will make a jolly good officer even if he didn't go to Eton or Harrow or Winchester, but fortunately I had sense enough to say nothing. Times were changing and Jamieson went to Cadet School.

Fields of golden grain in the area were harvested by reapers to the sound of guns and women did their share of the work. There were no binders to lighten the labor but then no such machines ever inspired a masterpiece like the Angelus or the Gleaners.

One day a note came to the Battery with a letter attached from a Mrs. MacLean in the north of Scotland to Sir Douglas Haig. She told him she was a widow with three sons in the army and would like to have one of them help with the harvest. In the corner of the letter, Sir Douglas had written: "Cannot something be done?" D.H. The note was initialled by all the levels from Sir Douglas down to me and asked if Gunner MacLean could be given leave under the circumstances, provided it did not interfere with the requirements of the situation and to advise this office of the action taken, please, or words to that effect. The note marked "Leave granted", with letter attached, travelled back through the same channels to the Headquarters of the British Forces in France. This little incident shows that not even the Commander-in-Chief would authorize leave for a soldier on request, but would refer the request to the soldier's Commanding Officer for action. Similarly Corps H.Q. chose the area within which a brigade should operate but would never tell a battery commander exactly where to put his guns.

On one occasion I couldn't find a suitable position in the area chosen by H.Q. and recommended one not very far outside. Next morning, the General asked me to meet him at a certain place in the area. After we looked over the ground carefully, he agreed to the position I had recommended. When he was leaving, he said, without much enthusiasm, "Well, you're the only one who has found a position yet."

After the capture of Kemmel Hill, we selected a new position for the Battery just behind a ridge north of the Scherpenberg and a forward position about three-quarters of a mile north of Kemmel Hill. With many hours of night work, we had three guns in each position in three days.

On September 6th, orders were issued that there would be no firing that night nor next day. About noon on the 7th, two or three shining Staff cars stopped on the road behind our main position. General Plumer of the Second Army and the Grand Old Tiger of France, Premier Georges Clemenceau, followed by the usual train of Staff Officers, walked through our guns to the top of the ridge just in front. From there they had a view of the old battleground from Kemmel Hill northeastward to Whytschaete Ridge. Silence reigned over this scene of destruction and ruin. If Clemenceau was familiar with Byron, he might have quoted:

"Yet there we follow but the bent assigned
 By fatal Nature to man's warring kind.
 Mark! where his carnage and his conquests cease!
 He makes a solitude, and calls it - peace!"

I should not be surprised if Clemenceau remembered that scene at the Peace Conference in Paris. Perhaps he knew even then that in three weeks time the scene would be obscured by the smoke and flame of the Battle of Flanders. I saw a great man that day.

Sometimes in the mess we had arguments about such things as class and rank in the civil sense and what constituted values and greatness. When I came out with a remark to the effect that I was not impressed where "The rank is but the guinea's stamp" nor by "the Great" who attain position by inheritance alone, Gough would say: "Democratic Mac speaks again", and argue that wealth was not the only thing inherited. Bottomley would partially agree with me and say "I like Mac's phrases anyway". After the war when jobs were scarce and Gough had none, he talked about the need for social change and I was the one to defend the established order.

About the time of Clemenceau's visit to the front, we got a new car but kept our old Irish driver. One day Gorman and I were out in the car when a salvo of four shells landed in the fields around us. The driver stopped the car, dragged his tin hat from under the seat, put it on and started the car. Gorman and I just looked at each other and said nothing but when we got back, I told the driver that if it ever happened again, the right thing to do was to step on the accelerator and not the brake. Of course, the orders were to wear tin hats when in danger of artillery or rifle fire. The new car came in handy as we had a lot of running around to do.

For our next move, two guns from the Scherpenberg Ridge were taken to form a new forward position and the third to join the three guns north of Kemmel Hill which became our main position with four guns.

I believe the place was once known as "Inverness Copse" but no trees were to be seen. Scarcely an eight-foot square could be found without the mark of a shell-hole. However we soon got settled in again and shared the place with large insolent rats. The whole area was more or less a graveyard and shallow graves all around us had been partly opened by shell-fire. The cooks fixed up a British grave just in front of the mess with a little wooden cross and name. They covered up an unknown German there too and I heard one of them say: "There you are, Fritz, another shovelful, does that feel better"? When one of the batmen showed me what he called his nice new ring, I asked him where he got it and he said quite casually, "From the third dead Frenchman, along the path to the dugouts." It was fortunate perhaps that we could live in such surroundings without too much concern. Death was our next door neighbor then and his harvest was heavy.

I heard from MacEachran that Lieuts. McKee and Cunningham and Major Bateman, all formerly of the 196th Bn., had been killed and also Col. Mosher of the 11th Field Ambulance from the Western Universities. Our list of friends lost in the war was getting long. MacEachran was in France as a paymaster with the Canadians. He and I planned to get leave together but it didn't work out. I had been offered leave earlier in the summer but turned it down as there was a chance Helen might get to England as a V.A.D.

The war was going well. The British were close to Cambrai and the French were keeping pace. In the South, the Americans under General Pershing had captured the deep salient at St. Mihiel with 15,000 German prisoners and were pushing on to their great offensive in the Argonne. In Flanders preparations were made for a large scale attack by a group of armies under the King of the Belgians. The 6th French Army was in the center with the Belgians on its left extending to the Coast and the 2nd British Army (including us) on the right.

At 5:30 a.m. on Sept. 28th, the allied infantry suddenly advanced, covered by a creeping barrage that started at 5:25 a.m. The country was almost impassable but the line was advanced rapidly by leap-frogging fresh divisions through the forces as they tired. Our battery fired continuously in the creeping barrage from 5:25 to 9:00 a.m. "At the start I stood on the crest by the B.C. Post back of the guns and looked over on Whytshaete Ridge where the near barrage was falling. Clouds of smoke hung over the ridge and bursting shell added to its volume while the red flash and amber flame of continuous detonations beneath looked for all the world like the waves of a sea of fire breaking on a rocky shore where puffs of smoke formed the spray. Beautiful and awful, for who could survive that barrage." (Quotation from notes made after the battle.)

By Oct. 1st all the German defences on the Flanders front were captured and the Allies had advanced over eight miles and taken 10,000 prisoners and 200 guns. A halt was made to repair the roads, move the heavy artillery forward and bring in reinforcements. The Germans used this respite to prepare new positions farther east.

A Canadian Casualty Clearing Station was at Esquelbecq on the railway behind the 19th Corps. Lillian Pigeon, a cousin of mine, was one of the Sisters there. We had been to school together in Kensington and she had written to tell me where she was in France. So one fine day, when things were quiet, I took the car, with driver, and went over. Lillian had just been awarded the Royal Red Cross, First Class. "Came up with the rations", she said; but others had a different story. She and a friend of hers were anxious to see the recent battle-ground so we arranged a day for me to take them to the top of Kemmel Hill to view the devastation of the country for miles around. Orders to move forward again upset our plans. We had five gunners wounded following that move; one of them, who died in hospital, had never been in the line before.

The second phase of the battle began on October 14th and by the 17th the Germans had retired from Ostend and the British had entered Courtrai. The sound of heavy explosions told us that the German General was destroying his big guns and ammunition dumps. Before the 21st, Zeebrugge, Lille, Roubaix and Tourcoing were in Allied hands. The other batteries of our Brigade had a number of casualties including Captain Baines of the 115th Battery. He was an Oxford man, the only son of a Rear-Admiral and he had been in France for three years.

The Major came back about the middle of October and soon after he and I went to Brigade H.Q. which had moved forward. As we were passing through one village, a German shell landed in the street a couple of hundred yards ahead of the car and killed a little girl, which somehow affected us more than a casualty in the battery. The Germans knew there were civilians in the village and that it was of no military importance. The people kept coming back to their homes behind us. One man, whose home was almost untouched, complained because his

potatoes were taken, while another who had everything destroyed, said with a smile: "When one has life, one has everything."

On October 27th, we moved to Courtrai where the men had comfortable quarters in a large building. The Germans had equipped the place with beds and did not have time to take them out. Our billets had been the headquarters of a German General and were quite palatial. The mess room had an inlaid floor, carved oak pillars and walls, large mirrors and stained glass windows. Our rooms were warm with soft carpets and comfortable beds; but I slept nearly as well the week before in a shelter not high enough to stand up in, with a bed-roll on a piece of trench board on an earth floor. The Germans bombed a bit at night and a few people were killed including one of our men. The civilians did not seem to worry much about the bombing.

When our new position in the Brigade area was chosen, Roberts and I took the detachments forward on the night of November 4 to put down the beams for the guns. We did not start till after dark as the Germans could see lorries at some points on the road during the day. Leave warrants had come through for the two of us and there were rumors that an armistice might be signed any day so we were especially anxious to avoid trouble. The Germans dropped a few shells in the area during the night and the sound of crumps and the smell of high explosive seemed worse than usual. However our good luck held and we got back safely to Courtrai in the small hours of the morning.

On the way to London for two weeks leave, I met N.R. Wilson, one-time O.C. of the Manitoba Company, 196th Battalion, and had dinner with him in Boulogne. He was a lieutenant in the R.G.A. and was going to Germany with the British Army of Occupation. Later he wrote how neat and clean everything in Germany was, compared with many places we had seen.

If Helen had got to England, we would have had a wonderful time together on that leave. But things did not turn out that way as unfortunately she could not leave home on account of her mother's illness. To avoid alarming Mother and Dad and Helen with a cablegram, I sent one to Mr. Dan Hiley to give them the news that I was in London on leave. That evening I went to the Gaiety Theatre and recognized the leading actor as the officer whose many stories and witty remarks evoked fits of laughter at Brewlands in Scotland when I was on leave there over a year before. (We had gone for walks together several times but he never mentioned the stage.) Next day I saw his name in large letters in front of the Gaiety but I did not try to renew acquaintance.

On Sunday I had tea with Dr. and Mrs. Tory at their flat where we had a good chat and heard a lot of news. Dr. Tory was head of Khaki College, which he organized to give enlisted men a chance to return to study while awaiting demobilization.

A few minutes after eleven on Monday, November 11th, the sound of local guns told the people of London that the Armistice had been signed. Soon the city was in holiday attire and the crowds went wild with joy. At night, the lighted streets added to the gaiety by sharp contrast with their darkness and gloom during years of war. It was a great time to be in London.

Roberts and his family got in touch with me and insisted that I stay with them at Old Avenue House, Weybridge, not many miles from London. It was

a beautiful home with large grounds and servants to keep everything in order. Roberts' stepfather, Mr. Miles, was head of the shipping firm of A.R. Miles & Co., London. Their offices were rows of empty desks as the Government had taken over control of shipping. He gave me some idea of how near the Allies were to defeat by submarine warfare and how the situation was saved by the rapid increase in American shipbuilding. Roberts and I played golf and billiards and roamed about the country. We toured the Vickers aeroplane works where large machines and assembling lines were efficiently operated by British girls. Several times the Miles took us for dinner to some fashionable London restaurant and to the theatre. Even in those places the normal British reserve gave way to the joyful mood of the time.

Back in France, the 65th Brigade settled down in Tourcoing to await demobilization. There was criticism of the policy to give preference to men who had jobs to go to, regardless of length of service. There was also some let-down in discipline which was a natural reaction to the stress of war. The men let it be known that they did not appreciate inspections by red-capped Generals and Staff who never came to see them in the line. But on the whole, they behaved well in the rather boring period before return to civil life.

The Army started refresher courses in school subjects and in various trades and I was appointed Education Officer for the Brigade. We had some two dozen officers and men with teaching experience giving courses in a variety of subjects. For myself, I knew that a reading knowledge of French and German was required for a higher degree. So, in the Army overseas, I read French novels and studied some German. In the end, I could ^{read} French easily - with the aid of a dictionary now and then. "Lettres de mon Moulin" by Alphonse Daudet was my favorite French book. The language of these delightful short stories seemed to flow so smoothly.

Helen's letters told of the relief and joy the Armistice brought to Canada. They told too, of the dreadful 1918 flu that cast its shadow over the land and claimed so many of all ages, among them several of Helen's friends and mine. I have always felt that the constant worry and anxiety of those at home was far harder to endure than the "tight corners" at the front, between which there were frequent periods of relief. And that, in the services at the front, the lot of the infantry was incomparably the worst, from the point of view of both danger and living conditions.

About the end of the year, confidential reports on all officers were required by Headquarters. Mine was on a form entitled "Officers recommended for Command and Staff Appointments". Major Wilson's remarks were very complimentary and under "Higher Commander's Remarks", the 65th Brigade Commander wrote: "A decidedly capable, steady officer with plenty of common sense and energy". That was the shortest and best recommendation I ever got, but there were times when I didn't feel so steady and it wasn't due to Scotch. Each form when completed had to be signed by the officer concerned.

Major Wilson was demobilized in January, 1919, and I was appointed to command the Battery. Later in the London Gazette, I was given the rank of Acting Major while commanding a battery. The chief advantage of this was an increase in pay which amounted in all to about fifty pounds sterling.

In February, my passage home was approved with no indication of when I could go. Lieut. Clegg and some of the men went to the Army of Occupation and miners and farmers were being demobilized.

In this waiting period, I saw something of the treasures of France and Belgium, in paintings and sculpture, buildings and parks. I spent a few days in Brussels with its magnificent buildings and famous Square; and recalled some history at Waterloo, where, on top of the mound, the British lion, with his paw on a cannon ball, still keeps his eye on the spot where Napoleon stood. Gorman and I had a week in Paris. We wandered through the Louvre and Versailles, went to the Opera and paid our respects to Notre Dame. It was a pleasant week amid the beauty that is Paris.

About the first of April, the Battery officers found a vacant house, owned by M. Delvordre, who lived next door with his wife, mother and sister. We arranged for them to cook for us and were glad we did. Monsieur had been in the army and most evenings he came in for a chat about the news, the war or politics. He spoke slowly and distinctly and it was good practice for us. At ten o'clock, he would say: "Eh bien, mon Capitaine, il est temps de se coucher", and off he would go. Through this family we met a number of French people who invited us to their homes for afternoon coffee. They were interesting people and, with Gallic politeness, they tried to assure us that they liked our way of speaking French. Gorman was the best at it. We liked the French people.

One day, the Sergeant Major brought a man to the office who said he wanted to see me. I asked him what the problem was. In a real Irish brogue, he said: "Do you know, Sir, that there are five Irishmen in this Battery and not one of us has been demobilized yet and we haven't had leave for months". I looked at him for a second or two and said: "Do you know that there is one Canadian in this Battery who hasn't been demobilized yet and he hasn't been home for three years." Slowly he relaxed as he came to realize that the Irish were not alone. We talked for a little while and he left in a better mood. I didn't blame him; I was getting restless too.

My travel warrant finally came through about the middle of May, with orders to report to the Repatriation Camp at Pirbright in England. Gough and Roberts had left and I was the next to go with the best wishes of good friends still in the Battery and Brigade.

Pirbright Camp was near Brookwood about 40 minutes by train from London. There were hundreds of officers on the list awaiting passage to Canada. With nothing much to do in camp, we could come and go as we pleased. I spent a couple of enjoyable weekends with Gough and Roberts at his home in Weybridge. We had all been initiated into the same fraternity - by war. The Torys, MacEachran, Boyle and other University of Alberta Staff were in London and I went up there quite often.

MacEachran persuaded me to apply for a British War Scholarship for post-graduate work. He and Boyle favored Trinity College, Cambridge. The University was beautiful and peaceful in the June sunshine, with young people punting leisurely on the quiet river and not a motor car in sight. The Master of Trinity told me that, with so many applications from returned students, he could not in fairness to them grant me admission. So I turned to a University in another Cambridge across the ocean and was admitted to Harvard.

I was interviewed by a Committee of the Education Board with Sir William Bragg as Chairman. The Committee awarded me a British War Scholarship of 200 pounds sterling a year for two years at Harvard University. That set my course for the next two years.

I was well treated by the British. I went into the Artillery as a Captain when the usual rating was Lieutenant. The Pay Office deposited about 30 pounds to my credit for kit lost in the March retreat and 125 pounds as a gratuity at the end of the war. On relinquishing my commission, I was gazetted to retain the rank of Captain.

At last my turn came and I was issued an embarkation permit for the S.S. Minnedosa sailing July 25th from Liverpool to Montreal. My next-of-kin in military records was my father, Ben MacLeod, High River, Alberta, Canada, and my travel warrant was made out to the same address.

The Peace Day parade was held on July 19th and with friends I joined the crowds that lined the streets of London for miles. The parade was headed by Marshal Foch, Sir Douglas Haig, General Pershing, Admiral Beatty and lesser lights of the war. It was a day of rejoicing and one more Victory Parade was added to the many that great city had witnessed in the course of her long history. With all the joy over peace, what a pity that the would-be statesmen of the world made such a failure of things at the Paris Peace Conference - and after.

In the evening of that day, there were dances and celebrations all over London. The morning after, at breakfast in the hotel, the girl who took my order said: "That's pretty good, not many officers are ordering porridge this morning".

The S.S. Minnedosa was crowded with Canadian soldiers. Among the officers I knew was Jeffrey Layne. We had been classmates at McGill and we had a pleasant voyage together, enlivened by the thrill of getting home again.

The armistice ended an anxious time for Mother and Dad. When Dan Riley told them he had my cablegram and that I was in London on leave, Mother showed her thankfulness by buying a \$1000 Victory bond in my name. She didn't have many of her own. I was thankful too, to be safely home again. There were changes while I was away. Brent and Elsie had bought a half-section farm only two miles south-east of High River. They had two nice children, Ernest, two years old and Kathleen, nearly eight months. Dad and Mother had sold the old home farm and lived in High River for a time. But Dad was restless; he missed the farm. Just after the armistice, the section adjoining Brent's place came on the market. Brent bought the half-section nearest his own and Dad bought the other which had the house and farm buildings on it. He and Mother were living there and that was home to me. One evening all the neighbors came in and put on a surprise party to welcome the wanderer home.

Three years before, I left Edmonton in command of an infantry company, on a special train, amid the cheers of scores of civilians. I returned to Edmonton as just another civilian, and there were no cheers. My private fortune was a few Canada bonds, mostly bought with army pay, and I had two years of post-graduate work ahead. But it didn't take Helen and me long to realize that

these were not the things that mattered, and as in the spring of 1916, we had some wonderful days together. Helen was the only one of the family at home with her mother and father. I stayed with them and they left the two of us pretty much to ourselves. We planned to be married after I had one year at Harvard to spy out the land and we hoped to return to the University of Alberta the following year, if all went well. With this dip into the future, I went to Harvard in a happy frame of mind.

HARVARD UNIVERSITY

Helen's brothers, Robert and Spencer, were honors graduates of the Harvard Law School. Bob was practising law in Boston and he and his wife, Mary, were living in Cambridge. Spen had been a captain in the American artillery and was with the firm of John Bird and Sons near Boston. They recommended a good boarding house and very soon made me feel at home in Cambridge. A couple of students from the Harvard School of Business Administration and two from M.I.T., together with a cheerful landlady, made living conditions pleasant.

It was my intention to work toward a Ph.D. in the Division of Physics, with special attention to the rapidly developing field of radio, later known as electronics. I studied under the direction of Prof. G.W. Pierce, Director of the Croft High Tension Laboratory. The first time I entered the Croft building, about noon, the only one in sight was a man in the hall, with his shirt sleeves rolled up, eating a sandwich. He had a genial smile and a stocky build. I thought he might be the janitor but he turned out to be Prof. George Washington Pierce. In his office it didn't take long to arrange my courses for the year. One was given by Prof. Pierce himself, using as a text his book on "Electric Oscillations and Electric Waves". This book was just being printed and we were given a bunch of loose pages from time to time. It became a standard text for years in many universities. An allied course on Vacuum Tubes and Circuits was given by Prof. E.L. Chaffee. Prof. Osgood, a great teacher of mathematics, gave the course in Advanced Calculus, using his own book as a text. I also registered in Prof. P.W. Bridgman's course on The Theory of Relativity. He would cover the blackboard in deriving an equation, then stand back and say: "A very pretty result". We had no idea then where Einstein's theories would lead to in 25 years, but we did learn that classical physics could not explain the new phenomena found in nature. Bridgman later wrote "The Logic of Modern Physics" and was awarded the Nobel Prize in Physics for his work in high pressures.

The Chairman of the Division of Physics was Prof. Theodore Lyman, the discoverer of the Lyman lines in the hydrogen spectrum. He was a Yankee and belonged to the inner circle of the Cabots and Lowells and A. Lawrence Lowell was President of Harvard then.

There were quite a few Canadians doing post-graduate work at Harvard. In Physics, David Keys was a year ahead of me. He became a popular member of the Staff at McGill, then at the National Research Council and later at Atomic Energy of Canada.

Mid-year examinations showed the professors which students deserved special attention. I made "A" grades and soon after, Prof. Pierce suggested, as a subject for my thesis, "The Variation with Frequency of the Power Loss in Dielectrics". I thought about it from time to time, but went on with my regular work.

Towards spring, Helen and I made arrangements to be married on June 24th (1920). With Mary's advice and help, I rented a small suite in Wadsworth Chambers, 83 Brattle St. It was in a good location, near Longfellow Park and not far from Harvard. With the year's examinations over, I went west for one of the great events of a lifetime. Ours was a happy wedding in Helen's home. One of her many friends, Ann Gillespie Grierson, played the wedding march and Dr. D.G. McQueen, for many years the beloved minister of First Presbyterian Church, performed the ceremony in his fine Scottish voice. He also proposed the toast to the bride with a touch of his Scottish humor and in a more serious vein, declared that she was the finest girl in his congregation. I've admired his wise judgment ever since. Our good friends, Bubs Hughes and John MacEachran, signed the wedding certificate.

In our cosy apartment in Wadsworth Chambers, Helen started in immediately to insure that I would work and study under the best possible conditions. Going out and having people in were generally limited to weekends, and in short order I was at work on my thesis.

The subject of my thesis was "The Variation with Frequency of the Power Loss in Dielectrics". Dielectrics are used in the manufacture of condensers. In a perfect condenser, the dielectric would show no absorption, its resistance would be infinite and the power loss would be zero. Actual condensers always show some loss, which can be determined from the equivalent series resistance of the condenser. My problem was to find a way of measuring this resistance without assuming negligible loss in a standard condenser. After mulling over the problem for several months, an idea had come into my head one morning for a new type of bridge that would do this. I discussed it with Prof. Pierce, who approved of the idea and gave me the go-ahead on building the bridge.

Briefly, the bridge had two equal fixed resistance arms (P_1 and P_2) connected in series across the power supply and two equal variable air condensers (C_1 and C_2) of special construction, connected in the same way to form a bridge. The dielectric supporting the high potential plates of each condenser was connected across its corresponding fixed resistance arm. A short brass rod connected to the metal support of the high potential plates of condenser C_1 and a cylinder surrounding it connected directly to the ground potential plates formed two terminals through which the condenser to be tested was connected in parallel with C_1 . A specially constructed 6000 ohm variable resistor was connected in series with C_2 on its ground side to balance the bridge.

Connecting the dielectric support of each variable air condenser across its corresponding fixed resistance arm was my new idea and this bridge proved to be an accurate way of measuring directly the equivalent series resistance of a condenser.

The Cruft Laboratory had a good machine shop, where graduate students were expected to build their own special apparatus, and a large supply of electrical instruments and standard apparatus of that time. But this did not include a variable frequency power oscillator of the type that I required, so I had to build one. The President of the General Radio Company, Cambridge, was interested in low loss dielectrics and arranged for me to wind the resistance arms for the bridge in the company factory. (The Cruft wavemeter and the variable precision condenser I used were made by the General Radio Company). Special care was taken to have the bridge as symmetrical as possible and such things as shielding in the bridge and connecting transformers given due attention.

I was accustomed to machine shop work and carpentry; but even so it took me all summer and well into the fall to finish building the bridge and power oscillator. The operation of the bridge and the experimental results obtained will be referred to later.

When the trees were dressed in their glorious autumn colors, we were introduced to a real New England Thanksgiving dinner at Bob and Mary's. Spen and George, Helen's youngest brother, were there too. (George had lost a leg in the American Naval Air Force and had entered Harvard Law School that fall) With delicious food and lively conversation, it was a highlight of many family gatherings throughout the year.

Another type of gathering that Helen went to regularly was the Harvard Damos. It was an organization for the wives of post-graduate students and through it we got to know a number of people. With a few of them, we still exchange Christmas cards every year. At the apartment, our most frequent Sunday visitor was Max Fife, a one-time lieutenant in C Company of the 196th Overseas Battalion. He was on leave of absence from the University of Alberta and was working towards an M.Sc. in Engineering at M.I.T.

In the fall term Dr. Tory wrote that the Alberta Contingent of the C.O.T.C. was being reorganized and asked if I would agree to retain the position of Officer Commanding with a year's leave of absence. General Bell, he said, was in favor and he hoped I would accept even if I had some doubt about returning to the University, and he offered me "at least an associate professorship". I accepted the C.O.T.C. position and asked about salary, a suite in Assiniboia Hall and my chance of becoming Head of the Department of Electrical Engineering. We were satisfied with Dr. Tory's reply and I became an Associate Professor of Electrical Engineering at the University of Alberta on leave of absence.

With a position in teaching settled, I thought I should be certain of a degree from Harvard. A Ph.D. was not assured so I applied for a Master of Arts degree. In addition to a good record the previous year, I had the requirements in French and German cleared away and had passed Harvard examinations in Mechanics and in Radioactivity and the Theory of Gases. I had been reviewing all these subjects on my own for some time. At mid-year, my Harvard A.M. diploma was received without charge or ceremony.

Perhaps the most interesting course I took that year was given by Prof. E.H. Hall, in advanced thermodynamics and related subjects. He had discovered the phenomenon now known as the Hall Effect, had several books to his credit and was completing his forty years of teaching in Harvard. His 19th

century science was undisturbed by the radical theories of Einstein and others and all his atoms behaved as they should. A man of the old school, he was a fine character as well.

In my time at Harvard, I was fortunate in having so many teachers with a world-wide reputation in science.

The experimental work for my thesis was carried out in a constant temperature room in the Croft Laboratory. I began with a series of tests to determine the sensitivity and accuracy of the bridge and found them to be entirely satisfactory. The condensers measured had dielectrics of glass, pyrex, paraffin, coresin and mica and their capacities were of the order of 1000 picofarads each. The equivalent series resistance, R , and the capacity, C , of each condenser were determined by the bridge at various points in the frequency range from 500 to 3000 cycles. The General Radio variable precision condenser was substituted to obtain C . The equivalent series resistance of this precision condenser was also measured over the same range. In the frequency range from 3000 to 1,000,000 cycles, a resonance method was used with a variable resistance set at zero in the circuit and a special double-throw switch for substitution of the precision condenser for the one under test. The circuit was resonated and its coupling adjusted to give nearly full scale deflection on the galvanometer. Then the switch was thrown over, the circuit tuned to resonance by the precision condenser and the variable resistance adjusted to give the same galvanometer reading as before. This resistance represented the difference between the equivalent series resistances of the two condensers.

For each condenser tested, $\log R$ was plotted against $\log f$ and the graph was a straight line. Therefore R was equal to a constant A divided by the frequency f raised to the power k where k was also a constant. The values of k were all slightly above unity but the values of the equivalent series resistance R for any one frequency varied widely, depending on the dielectric in the condenser.

When I started to write up my thesis we borrowed a special typewriter which included mathematical symbols and the Greek alphabet. Helen did all the typing, which was a tremendous help as I could make revisions at any time. The final copies on special thesis paper looked very neat indeed.

Nearly all the Division of Physics Staff were present at my oral examination. It was a pleasant moment when Prof. Lyman told me, a few minutes after, that I would be recommended for a Doctor of Philosophy degree and offered his congratulations. It was the only Ph.D. in Physics in 1921 and one of 34 granted by Harvard that year.

Helen and I went to the Stadium for the Class Day exercises which made a beautiful sight. In the evening, "The Yard" at Harvard, with Chinese lanterns in the trees, was like fairyland. Commencement Day ceremonies were held on June 23rd in Sanders Theatre at Harvard and President Lowell welcomed the new Ph.D's "to the community of scholars".

After I received my degree, Prof. Pierce offered me a position on the Physics Staff with a salary to match Alberta's and half time for research. I told him it was a tempting offer, but I could not accept it as I had promised

to go back to Alberta. "Why", said Pierce, "do you want to go to the borders of civilization when you can stay at the center of the universe?" He was not alone in thinking of Harvard as the finest university on the continent. In spite of all the attractions of Harvard, Cambridge and Boston, Helen and I have never regretted our decision to return to the University of Alberta.

The day after Commencement was our first wedding anniversary and we celebrated by going for lunch in Boston and to the theatre where Ethel Barrymore was playing in "The Twelve Pound Look". Bob and Mary had rented a cottage at Scituate and we had a few days with them and Spen and George before they saw us off for Edmonton.

(For the record, my thesis was published under the heading: "The Variation with Frequency of the Power Loss in Dielectrics", in the Physical Review, Vol. 21, No. 1, January, 1923. After I left Harvard, the bridge was used in research work on liquid dielectrics.)

It might be of interest to add that the two years at Harvard, together with travelling expenses, cost about \$4000. There was a 14% discount on Canadian money and something of the same order on the British War Scholarship. Mother had written her brother (my Uncle Hector) that I was at Harvard and each Christmas as we were there, he sent us \$500 and it had no discount. When we were settled in a suite at the University of Alberta, we had between us a few thousand dollars in Dominion of Canada bonds as a back log that has never burned away.

THE UNIVERSITY OF ALBERTA (1921-36)

In Edmonton we stayed with Helen's parents while we were getting our suite in Assiniboia Hall in order. A large number of wedding gifts proved very helpful when we began the thrilling experience of furnishing a home. It is something one never forgets. My mother gave us a fine Heintzman piano and generous cheques from the two fathers went a long way in buying furniture - a good deal of it from Peggy Watts' antique shop. Our complete set of sterling silver tableware was a gift from Helen's mother.

A pleasant surprise when we were at Harvard was a wedding gift from the Officers of the 118th Siege Battery, R.G.A. It came from Wilson and Sharp, Silversmiths, Princess Street, Edinburgh (Major Wilson was one of the Wilson family). It is an eight inch round sterling silver salver with fluted edges. The crest of the Royal Artillery with the motto "Ubique^{quo} fas et gloria ducunt" is engraved in the center and around it the autographs of all the officers. The inscription on the back reads: "Presented to Capt. H.J. MacLeod, R.G.A. on the occasion of his marriage, by the Officers of the 118th Siege Battery, R.G.A." It was thoughtful of them to send it especially when they were scattered from Northern Ireland and Scotland to Italy. The salver is the work of a master craftsman and will become one of the family heirlooms.

The Canada Gazette of June 4, 1921 contained the following:

"Canadian Officers Training Corp.

Alberta University Contingent, - The following additional appointments, promotions and transfers are authorized on reorganization of the Con-

tingent with effect from the 1st December, 1920.

To be Lieutenant-Colonel and to command the Contingent: Major H.J. MacLeod.

To be provisional Major: Captain S.D. Killam."

Also appointed were two Majors, two Captains and seven Lieutenants. Major Killam had been Acting O.C. in my absence and the Contingent had increased in strength and efficiency since reorganization.

Dr. Boyle, Head of the Physics Department, had been appointed Dean of Applied Science and Acting Head of the newly formed Department of Electrical Engineering in which I was an Associate Professor. We planned the Electrical Engineering course somewhat similar to the one at McGill and Boyle left the running of the department almost entirely to me.

With things in order for the opening of term, Helen and I went to visit the family in High River for two or three weeks. Mother and Dad had found the work on the farm too heavy for them, so they arranged for Heath and Hattie to come west again to run the farm on shares. Mother had bought a house in High River and had it fixed up with all the modern conveniences, but Dad preferred to stay on the farm most of the time.

It was good to get back on salary again and to enter into the very pleasant life of the faculty of the University of Alberta. In the early twenties there was a spirit of optimism in the air. The University was growing fast. Most of the staff were on the sunny side of middle age, enthusiastic in their work and also ready for fun. Many of our friends were young married couples then. It was a good time and place to live.

The Mayfair Golf and Country Club was opened in the spring of 1922 and we became charter members by paying \$140 for a share and the annual fee of \$40. The Club was just down the Mayfair Hill from the campus houses and a large number of University people, from the President down, became members.

Some of the married people in Assiniboia Hall had garden plots near the campus houses. The soil was rich and vegetables and flowers grew rapidly. In the evening hours, one could generally find company there and maybe hear such remarks as Killam telling the Frenchman, Sonet, that peas would not grow unless they were planted right side up, or Sonet telling another European that Canadian mice had two tails.

I spent Christmas week (1922) with Mother and the family in High River. She seemed fairly well and happy then, but in February, Brent sent a telegram that she was very ill. When I went down, she told me that she knew she would not get better, and that she was thankful her mind was as clear as ever. She liked to talk of the friends she would meet "over there". But she was interested also in the ones she was leaving and there were amusing recollections of old friends on P.E. Island. Dad and Hattie were in the town house too and, under Hattie's quiet and efficient supervision, Mother had every comfort possible. She passed away peacefully on February 23, 1923, and was buried beside Ernest in the High River cemetery.

Mother liked flowers and plants and beautiful things. She was skilful with her needle and made lovely things herself. She liked people, had a good sense of humor and a capacity for making friends. She was efficient

and competent and perhaps a bit impatient with indifferent work. When driving to town, she would often lean forward in the seat of the buggy until Brent would say, "Lean back and take it easy, Mom, you'll get there just as quickly". She showed her love for us by deeds rather than words and she showed it well.

Before we had a car of our own, Dr. and Mrs. Tory occasionally took us for a drive in the evening. He was good company and talked freely about the University, people in the Government and members of the staff. He sometimes expressed opinions in confidence that would be rather embarrassing for him, if they were ever repeated. He had the ability to make one feel that one had a part to play in the building of a great university. In doing so, he won the loyalty of his staff. Helen was a great favorite with Mrs. Tory and we were very fond of her.

On July 25, 1923, Margaret was born and soon became the most important member of the household. Even before she began to talk, she gave the impression that she knew what we said to her. She had no interest in baby talk and very soon used sentences rather than single words. I have never ceased to wonder at the facility with which children grasp the meaning of words and ideas.

In the year 1921-22, there were only two or three students in Third Year Electrical Engineering and in the spring, arrangements were made to have them take the fourth year work at the University of Manitoba. In preparation for Fourth Year at U. of A. more electrical machines and instruments were ordered. S.C. Morgan, an electrical graduate of Queens, joined the Department as an Assistant Professor. He married Gladys Buchanan, a U. of A. graduate whom we knew, and they have been friends of ours ever since.

The first U. of A. graduates in Electrical Engineering were in the class of 1924. Of this group of seven, Homer LeBourveau went to the Calgary Power Company and later became Manager of Operations, and Jimmie McMillan, with the same company became Purchasing Agent. They were the first of several U. of A. graduates to become managers in the Calgary Power Company. Sidney Stock and Bill Fanjoy went to the Canadian General Electric Company in Peterboro and paved the way for quite a number of other U. of A. Electricals to obtain practical experience in the Test Course at C.G.E. Many of them went on to responsible positions with the Company.

In June of the same year, I was appointed Professor and Head of the Department of Electrical Engineering at a salary of \$3500 a year. I had been a member of the University Staff for ten years; five of them on leave of absence.

About the same time I relinquished command of the U. of A. Contingent of the C.O.T.C. and was transferred to the Reserve as a Lieutenant Colonel. The officers in the C.O.T.C. were mostly returned men who knew their work well and the battalion received good reports following the annual inspections by the Officer Commanding Military District No. 13, General Bell and his Staff. Lieutenant Colonel G.P. Parkes, V.C. was then G.S.O. of District No. 13. There were some 250 officers and men in the U. of A. Contingent C.O.T.C.

The Director of Physical Education resigned that spring (1924) and Dr. Tory asked me to take charge of Physical Training and arrange for student instructors to do the work. Dr. Tory was very good at asking people to do

things "as a favor to the University", and it was a couple of years before he found a new Director. One year I was Honorary President of the Men's Athletic Association and went with the Alberta team to the Western Universities Track Meet in Saskatoon. During this period Helen was, for two years, Honorary President of the Weaneta Society, an organization of all women students in the University. We bought our first car - a used Chevrolet - in the spring of 1924 and turned it in, plus \$825, for a new Pontiac, two-door sedan in the fall of 1926.

Early in March, 1925, No. 2 University Campus became vacant and the President let us have it. We had had an application in for some time, but there were always people wanting the Campus houses, and we were very fortunate to get one. We moved in about the middle of March. It was a fairly large three story house, steam heated from the University Power Plant and the rent was only \$55 a month.

The Campus Circle as it was called, was a wonderful place to live, especially for a family with small children and ours jumped from one to three when the twins, Donald and Dorothy, were born on July 11th that same year. (Three years later they made the Social Page of the Edmonton Journal with the caption "The Campus Twins" - charming three year old children of Lieutenant Colonel and Mrs. Hector J. MacLeod.) Margaret viewed the twins with an air of detached interest.

We got a good natured girl named Rosie to help Helen look after them and Mrs. Lieberth, a German woman to mind the house and do the cooking. She had recently come from Germany and knew no English so we had to revive our knowledge of German. The Lieberths had been comfortably situated in Germany before the war but the awful inflation there had left them penniless. She was an excellent cook but didn't think much of Rosie ("too lazy" in German) - not quite fair to Rosie.

I had a workbench and tools in the basement of No. 2 and enjoyed doing a bit of carpenter work. When Helen came home from the hospital, I had a corner cupboard made and painted in blue and white to match the dining room. It is still in the family. And when the twins were a little older I put a new "body" on the running gear of Margaret's stroller and made it long enough to hold them facing each other like a couple of Victorians in a landau; painted with turquoise enamel, they quite approved of it.

With the permission of MacFarlane, the machinist, I had the privilege of using the University Machine Shop. There, among other things, I made an iron and brass stand for a set of fireirons of very fine workmanship, given to us by Helen's parents. By the way, it was my nature to be on friendly terms with the University workmen - the men in the Power Plant, the machinists, the electricians, the carpenters, the plumbers and the janitors. They were, almost without exception, good types whose views and comments on a variety of subjects were well worth hearing, to say nothing of the many additional services rendered as a result of our friendly relations.

After Mother died, Dad was generally up and around, but felt "so weary". I persuaded him once to go on a picnic to the Prince of

Wales ranch. I didn't realize then that he would much rather have stayed at home. I know more about what it means to be "weary" now. He talked about Mother and the mystery of life and of the Great Beyond as "where the wicked cease from troubling and the weary be at rest". He went to his rest on July 23rd, 1925 and was buried in the family plot in the High River Cemetery.

Dad liked a good story and good company. He was fond of reading and nothing pleased him more than a day of rest with the papers and a magazine or book. I think he wasn't greatly interested in the Kensington farm but later in High River he often spoke of going back to the Island, buying up several farms and starting a sheep ranch. The dream never materialized. Dad was even tempered and I don't remember ever seeing him really angry. His was the virtue of patience.

Don and Dorothy were quite sick in the spring of 1926 and we had a practical nurse for a time to look after them at \$20 a week and a smart young trained nurse for two nights at \$5 a night. Rates are vastly different now.

We had quite a few visitors that summer. Bob and Mary and their three children came from Boston. We had not seen them since we were at Harvard and it was good to have a family reunion again. Hattie and Heath came to see us before returning to the French River farm which they had inherited over ten years before. Brent and Elsie with Ernest, Kathleen and Ben also paid us a visit. It was a pleasant but busy summer.

We had a maid but late in August we got Mrs. Baird to look after the children while Helen and her mother went to the Coast for a rest. Helen was particularly impressed by the beauty of the parks, the mountains and the sea, and thought it an ideal place to live. Mrs. Baird proved to be a great find; she was good with the children and we had her look after them many times.

At Christmas time we sent a picture of the three children to my Uncle Hector Morrison in Portland. He had been very generous to us when we were at Harvard and had come to see us in Edmonton. We enjoyed his stories about his old home on P.E. Island and his life and work in Portland. He wrote that the picture was the best present we could have chosen. Soon after, he sent us five \$1000 bearer bonds, one each for Helen and me and three for the children's education. He wrote that he was distributing most of his estate while still in the land of the living. He and Helen's Uncle Peter were in a class by themselves. Uncle Pete was Mine Superintendent in her father's company and was a great favorite with our children. He helped Helen's parents move several times and his philosophy was, "Blessed is the man who hath nothing." When asked what he would like for Christmas, his reply always was, "A contented spirit". It has become a saying in our family.

An important University development in 1927 was the building of Radio Station CKUA with studios in the Extension Department and the transmitting station under the direction of the Department of Electrical Engineering. Dr. Tory believed in "bringing the University to the people" and

the Radio Station would be another means of furthering that policy. His policy was enthusiastically carried out by the Extension Department under the direction of A.E. Ottewill. He was a young giant who grew up on an Alberta farm and graduated in 1912. After the war, his able assistant was Ed. Corbett who later became Director. Books and lantern slides, movies and agricultural information were taken all over the country. The University staff was commandeered to give lectures and talks in the cities, towns, villages and hamlets of the Province and some amusing tales of their experiences are told. On one occasion, Dr. Broadus, head of the English Department, got off the train at a little one-street village to see this notice stretched across the street: "Come and hear Dr. Broadus' lecture and enjoy yourselves afterwards at the dance".

I did not do much extension work but after a talk on 'The Way of Science' at a luncheon meeting in Lethbridge, one of the men said he would like the High School pupils to hear it and asked if I would repeat it for them in the afternoon. I agreed and met about 500 pupils and their teachers. The attention was good and I had a pleasant time afterwards with some of the teachers before going on to Medicine Hat.

I gave a somewhat similar talk to the High River Rotary Club and most of it was published verbatim in the High River Times, February 23, 1933 and the following issue, under the heading "Dr. MacLeod Univ. Alta. Unfolds the History of Human Development". As this was over six years before the start of the Second World War, the following quotations from the Times of a remark or two and the concluding paragraph may be of interest. "It is no secret that any great city could be completely wiped out in a single night by planes carrying deadly bombs and gasses. In future, the Cabinet minister's office will be as dangerous as the front line, and the millionaire's home will share the fate of the dugout. These facts may help to keep the war dogs chained."....."Man has built the long road from the cave and jungle by courage, faith and determination. Time after time floods have swept away his bridges, destroyed his foundations, but have not stopped the work. By these same qualities of courage, faith and determination, he will continue to build on in the general direction of truth, where he hopes to find the answer to the question mark in which he lives."

CKUA proved to be a very effective means of communication for the Extension Department. People all over the province could listen to a programme that formerly was heard by a relatively few in one locality. Other phases of extension work were, of course, still carried on.

As improvements in transmitter design were developed, we in the Electrical Department rebuilt the CKUA transmitter. No one objected to any infringement of patents as the station was not a commercial one. These changes took a lot of our summer time but kept us up to date in the field. The station became very useful in connection with our graduate work and most of our graduate students entered the field of Communications and Electronics. CKUA was originally a 500 watt station operating on a frequency of 580 kc. For its size, its range was exceptionally good and occasionally reports of reception came from as far away as New York and Hawaii.

In the fall of 1927, Helen's parents returned to the milder climate of their native land in Long Beach, California. Her father had come to Edmonton in 1903 and his family in 1905. He was Managing Director of the Alberta Coal Mining Company, a naturalized Canadian and American Consular Agent in Edmonton. The men at the mine were mostly farmers in the area who worked there in the off-seasons. In the early 1920's, under outside leadership, there was a strike followed by violence. A fire at the mine burned the tipple to the ground and an RCMP constable was seriously injured. The mine was not reopened and a much needed source of extra income was lost to the farmers.

For the session 1927-28, Stan Morgan went to the California Institute of Technology for his Master of Science degree, partly at my suggestion. In the spring he accepted an offer to join the Electrical Department at Queens, his Alma Mater. That is a chance one takes in advising staff to become better qualified. In his place we got Wilfred Cornish from the General Electric Company in Peterborough. He was a fine chap who gradually won high regard for himself in the University and among the engineers of the province. Wardlaw Forteous joined the Department as a lecturer in 1930 and obtained his M.Sc. a few years later. We enjoyed working together and a cheerful atmosphere pervaded the Department. We attracted considerably more than our share of students in the Faculty but the classes were small and we got to know the students well. As each spring came round we were sorry, in a way, to see the graduating class go, but in the fall the new seniors soon awakened our interest in them. Some graduates stayed in Alberta with Calgary Power and other utilities but most of them went East to the Canadian General Electric, the Canadian Westinghouse, Northern Electric, Marconi and other companies. Over the years, scores of letters told of their work, their new environment and the people they met. Sometimes there was a request for advice or for a letter of reference and now and then a word of appreciation to show that the old Department was not forgotten.

Where a graduate went sometimes seemed to be a matter of chance. One evening after five, Ern Bowness, who was then Manager of Canadian Utilities, came into my office and said he wasn't looking for a gold medalist, he just wanted a graduate with good common sense to become a District Manager for the Company. I told him we had quite a few and went upstairs where I found Jim MacGregor alone at work on a lab report and chewing the stem of his pipe. I told him about the job and suggested he should get at least \$125 a month. He became District Manager for the Company in Vegreville and later Chairman of the Alberta Power Commission. He was interested in the early pioneers of the province and published several books, including Blankets and Beads, North-west of Sixteen and Edmonton Trader. In 1960, he received the Canadian Historical Association award for outstanding contributions to local history in Canada.

In the summer of 1928, Dr. Tory left Alberta to become President of the National Research Council in Ottawa. He was a man of vision with the energy and enthusiasm to make his dreams come true. The warm friendship and inter-faculty co-operation at the University were due in no small measure to Dr. and Mrs. Tory. Mrs. Tory was Auntie Tory to all the children on the campus in a very real sense. About 250 University people attended the farewell party for the Torys. On behalf of the staff, Dean Kerr presented Mrs. Tory with a beautiful silver bowl and Dr. Tory with a handsome gold watch as souvenirs.

of pleasant associations extending over twenty years. Then our Margaret (dressed in her Sunday best) gracefully presented a bouquet of roses to Mrs. Tory, amid hearty applause, perhaps for both of them. I would place Dr. Tory among the great men of Canada in view of his personal qualities and his many contributions to the institutions of higher learning in this country. For many of us the University of Alberta was never quite the same again.

That summer we took the children and Josie, our maid, to Parksville on Vancouver Island for a holiday. We had one of the Harrison cottages among the tall fir trees with space enough for sunlight. Contact with the sea was a new experience for the children; the salt water, the tide that came in and washed their sand castles away, the shells and colored stones along the shore and the strange living things to be found there. Mr. Harrison got some second-hand wire, insulators and sockets and I wired the cottage for electric light and connected it to the power supply in the Harrison house a hundred yards away. It was still in service when we were at the Island Hall Hotel nearby, over twenty years after.

In the spring of 1929, Dr. Boyle left the University to become Director of the Division of Physics and Engineering at the National Research Council. He had done notable research work in ultrasonics during the First World War and continued it at Alberta. I was sorry to see him leave. When Boyle was Dean, he and Ibe Morrison, professor of Civil Engineering, and I introduced a course in Engineering Physics for a few students with first class records. George Field graduated in this course in 1929 and returned the following year for his Master of Science degree. As Boyle had left, I supervised George's graduate work. He then joined the N.R.C. under Boyle, was in charge of acoustic research during the Second World War and later became a member of the Defence Research Board of Canada. R.S.L. Wilson, Head of Civil Engineering, became Dean and I worked closely with him until we left Alberta in 1936.

Dr. R.C. Wallace, the Head of the Dept. of Geology at Manitoba, succeeded Dr. Tory as President of the University of Alberta. Dr. and Mrs. Wallace were born in the Orkney Islands and attended university in Scotland. Dr. Wallace was a graduate of Edinburgh and Goettingen and for a time served the Dominion Government as Commissioner for Le Pas in northern Manitoba. He was a man of wide interests and good speaker whose quiet words commanded attention. He was a genial companion with something of the mystic Scot about him. He and Mrs. Wallace and their family were our neighbors in No. 1, University Campus. Mrs. Wallace was a gifted woman with a delightful sense of humor and an excellent memory. She could come to a student party at our house and months after mention the names of several students she had met there for the first time. The Wallaces did not accept Sunday invitations but occasionally he would stroll over on Sunday with copies of the New Statesman for us and stay for a chat. We got to know them well and thought very highly of them.

In the spring of 1930, we got Mrs. Baird (Buddy) as housekeeper and to look after Don and Dorothy while Helen went to Long Beach to visit her parents for two months. She took Margaret, much to the joy of her grandparents, who thought she was the nicest little girl in the world. That spring, Helen became a member of the University Senate as a representative of Convocation and was a member until we left Alberta.

In September, Margaret started going to Normal Practice School on the University grounds, nearly a mile away. She had gone to kindergarten the year before, but the first day of school is a day to remember. Her special friends were Mary Robb, Brenca Wallace and Alice Cameron. Normal Practice had exceptionally good teachers whom our children still remember with pleasure.

When we moved to No.2 Univ. Campus, I put my grandfather's clock on a shelf in the front hall. It is an Eli Terry clock with wooden wheels and heavy weights. It has a very attractive mahogany case, 30 inches high and, in 1930, had been in the family for 100 years, looking little the worse for wear. The clock was not in running order then and the weights were not in. One day in November I came home at noon to find it had fallen to the floor. The door must have opened. I told Helen it was a bad omen for the family. A few hours later, Brent phoned from High River that Ben had infantile paralysis (polio) and was paralysed from the waist down. He was in the University Hospital, which had a wing for such cases, for several months and was always cheerful when we went to see him. With the help of the Hospital and a large ingredient of will power, he learned to walk with scarcely a limp, graduated from McGill in medicine, became a successful doctor and built up a clinic in Brooks, Alberta. Maybe I was wrong about the bad omen.

We bought an electric refrigerator in 1930 and the ice-man had one less call to make. Of more interest to the children was a red cocker spaniel pup who became a member of the family under the name of Sandy and was their constant companion.

In 1931 Helen was ill with anemia from lack of hydrochloric acid and the doctor had her stay in the University Hospital for some weeks. Mrs. Baird again looked after the children and the house with the help of Julia, the maid. When Helen was somewhat better, I went to Victoria with her for a couple of weeks. After that she stayed at Westhaven for a time and improved greatly in health. Her mother came up from Long Beach and they had a month together in Vancouver.

In the meantime I took Mrs. Baird, the children and Sandy to High River for a visit with Brent and Elsie and their children, who taught their city cousins a lot about animals and life on a farm in the course of their happy time together. And a dip in the cool clear water of the Little Bow River, that ran through the pasture, was refreshing on a hot summer day.

Back to the Campus Circle all the talk was about school. Don and Do's friends, Edward Allan, Gordon Robb and Patricia Haxe were starting to school and, after the first day, they were all so elated and Don and Do so down, that I got in touch with Helen and we let them go too, only a year after Margaret. They came home in great spirits saying all their friends were there. Two weeks later, their teacher, Miss Crozier, divided the room into classes and they were delighted to be in the first class. They had been to kindergarten the year before.

One evening, when I was saying good night to them after they were all tucked in, Margaret said: "I'm leaving home and you needn't put a light in the window for I'm not coming back". It finally came out that Julia

had scolded them for hopping out of bed, but it was all forgotten in the morning. The twins heard nothing of this for all three had rooms of their own at No. 2. Mrs. Baird was good to the children but they often asked "When is Mommie coming home?" and when she did come soon after school opened, she was welcomed home with great rejoicing.

When all three were at school, it didn't seem long since Dorothy, aged three, would join Margaret in singing songs and hymns such as "Away in a Manger". When Mar would point upward to "the stars in the bright sky" Do would follow. At first she wasn't quite sure whether the stars were up or down, but it didn't take her long to learn. Of all their children's books and stories, they liked the Christopher Robin ones the best. Christopher and Pooh and Piglet and Eeyore and other friends were very real. They knew many of the "When We Were Very Young" poems by heart.

In the back garden there was a sand-pile, a rocking horse, a tri-cycle, a croquet set and a seven-foot ladder and slide that could also be made into a teeter-totter. With plenty of space around the houses and three or four acres of trees behind them, the Circle was an ideal place for all the youngsters in the neighborhood to play and to explore the great outdoors from their fort in the "forest".

We also had friends with children in the same age group as ours, living in Garneau and Windsor Park. Stan and Hazel McCuaig, Ibe and Kathleen Morrison, Alan and Jessie Cameron and John and Gladys Allan (in the Circle) were all uncles and aunts to our children as Helen and I were to theirs. (Hazel McCuaig was Hazel Rutherford who had been at Toronto with Helen and was the daughter of A.C. Rutherford, the first Premier of Alberta and in the thirties Chancellor of the University.)

Our family had its share of children's diseases. There was a lot of polio around in 1927 and not a child could be seen on the streets in Garneau. Ours were quite sick and Dr. Leitch said to keep them in their cribs until they climbed out as he wasn't sure what they had. In time they did climb out. In the early thirties they had whooping-cough, measles and mumps and all three had their tonsils out in the University Hospital.

For holidays in the thirties, we generally went to a lake. We rented the May cottage at Gull Lake for a month in each of three summers. The Mays were old-timers in Edmonton. Helen and Vera had been friends since school days and her brother, "Wop" May was one of the famous bush pilots. The day we got home from the lake in '32, Don wasn't feeling well. We thought it was beach sickness but called Dr. Leitch who came at once and said it was appendicitis. In the University Hospital, his appendix was out by nine o'clock that night and he was on the go again in a short time.

The next summer there were three sets of MacLeod twins at Gull Lake. Besides ours, there were Don and Hugh, the sons of Dr. and Mrs. Hugh MacLeod. Hugh MacLeod was then the minister at Robertson United Church in Edmonton. He is one of the best with a fine sense of humor and a keen appreciation of poetry; he tells a story well. We were to meet these MacLeods in later years but the third pair of twins we did not see again.

The Wallaces had a nice cottage at Kapesiwin Beach on Lake Wabamun about 40 miles from Edmonton. They invited us to use it in July, '34 while they were away and we had a delightful time there. The weather was fine and quite a few of our friends were there. A few months later, we bought a cottage at Kapesiwin and had a good man fix it up during the winter. He took in the front verandah to make a larger living room and a fourth bedroom. There was a good back verandah. He had a stone fireplace built in the living room and lined all the walls and ceilings with groove and tongue V-board fir. He also built a combined garage and ice-house and we had ice put in during the winter to last all summer. We painted the cottage white with a red roof and the garage to match. We fixed up a hot water tank connected to the kitchen stove; put up bright curtains and added comfortable furniture. When finished, we felt it was our own creation and one place we really owned.

Following the financial crash of 1929, the early thirties were lean years. Unemployment was wide spread and money scarce. Students could get little or no summer work and even after graduation they entered a society which was unable to make use of their services. It is small wonder then that various forms of radicalism appeared and security became a matter of concern. To me the wonder is that students reacted as well as they did. A few of them never did get into the professional fields they were well qualified to enter. But generally they survived the depression and made good.

An example of this was recently brought to my attention. One of a series of articles in the Edmonton Journal (1963) on "Edmonton Business Leaders" featured John C. Dale, the President of Canadian Utilities. He graduated in Electrical Engineering from U. of A. in 1932. The opening paragraphs of the article tell the story. "The silver-haired executive shuddered as he recalled how he nearly made "the greatest mistake" of his life. John C. Dale, 54-year-old president of Canadian Utilities Limited, said he almost accepted an engineering job in Russia during the depression.

"I was just out of university and rarin' to go to work, but you couldn't buy a job in Canada," he explained. "Then I learned they were looking for graduate engineers in England and Russia. The English proposal did not interest me, but the Russian offer was attractive. The Russians, as I recall, were going to build an extensive hydroelectric network near Moscow. I was set to make the move, but a University of Alberta professor - Dr. Hector J. MacLeod - talked me out of it. He said a political upheaval was shaping up in the Soviet Union which made the job risky. 'Don't get discouraged,' he told me. 'Things are going to get brighter here, son.'"

"Mr. Dale hesitated briefly, then added: 'That was the most important decision I have ever made. It averted what could have been the greatest mistake of my life. I would have left Alberta just at the beginning of a real era of opportunity.' Today, he is widely recognized as Alberta's 'disciple of electrical energy.' The description fits like a tailored suit."

Later on the article tells how John Dale got his first job. "Soap-suds played a key part in Mr. Dale's first break after he turned down the Russian offer. Northwestern Utilities Limited had decided to odorize its natural gas supply in Edmonton as a safety measure. It hired 30 men, including Mr. Dale, to inspect home gas connections for leaks in preparation for the

change. 'We were given a can of soapsuds and a brush', the C.U.L. official recalled. 'We would spread the suds on the pipe joints and if bubbles appeared, we knew there was a leak.'" Dale was a Major in the Second World War and was seriously wounded following the D-day assault.

The article about John Dale was sent to me by Jack Tames, Pacific District Manager in Vancouver for the Canadian Westinghouse Company and a 1925 graduate of the U. of A. By the way, his classmate in Electrical Engineering, Ted (E.H.) Gowan, was awarded a Rhodes Scholarship and became a professor of Physics at U. of A.

After George Field obtained his M.Sc. degree in 1930, I generally had a student or two doing graduate work. In addition to an electrical course, the Master's degree required one in Mathematics and one in Physics as well as a thesis. A student could take the electrical course only without going on to a Master's degree in the Department. The group I remember best were there between '33 and '35; they were Harold Hurdle, Ed Jordan, Geoff Miller, George Sinclair and Dave Williams. Ed Jordan looked after the radio equipment in the CKUA studio and operated it all through his course. We used the Broadcasting Station, which was under the Department, in some experiments with the students. This group of students had a lab largely to themselves. They frequently made tea in the afternoons and, like the walrus, we talked of many things over a cup of tea and biscuits. Perhaps these sessions were remembered longer than discussions about a thesis or the regular work.

One problem was where to go for study beyond the Master's level. I always believed that the man under whom a student worked was more important than the university he was in at that time. Dr. W.L. Everitt at Ohio State was one of the leading men in electrical communication and we used his text-book. Jordan, Miller and Sinclair went to study under him and, with the aid of scholarships and teaching fellowships, all three obtained the Doctor of Philosophy degree.

During the Second World War, Jordan was an assistant professor at Ohio State and Sinclair was Director of the Antenna Lab. They collaborated with others in writing "Fundamentals of Radio", edited by Dr. Everitt. This popular text-book went through more than half-a-dozen printings during the war. Ed and George sent me an autographed copy and in a letter added: "We hope you will consider this as a token of appreciation and affection for the man under whom we obtained our start in communications."

George Sinclair was appointed Professor of Electrical Engineering at the University of Toronto in 1947 and was later awarded a Guggenheim Fellowship. He is also President of the Sinclair Radio Laboratories, Ltd. with head office in Toronto. Ed Jordan went with Dr. Everitt to the University of Illinois and when Everitt became Dean of Applied Science there, Jordan was appointed Head of Electrical Engineering. Geoff Miller joined the National Research Council of Canada and was a member of the Radar Research team during the war.

Harold Hurdle is one of the senior engineers in the Montreal Engineering Company. He was a Major in the Second World War and was awarded the O.B.E. Dave Williams joined the R.C.A.F. In 1943, Group Captain D.G. Williams was

posted as Commanding Officer, No. 4 Wireless School R.C.A.F., Guelph, Ontario. I had a letter from him in June of that year inviting me to visit the station the next time I went to Ottawa. Not long after, he was killed in a plane crash.

A finer group than this would be hard to find.

There were no serious accidents in the electrical labs during my many years of teaching. There were, of course, circuit-breakers blown and some rather valuable instruments burned out but not very many. Besides the usual rules of procedure we had a definite rule that no student was to do any electrical work while alone in the lab. One holiday I was working alone on an experiment in the lab. I was thinking of what to do about it, when I suddenly got an idea. I had a couple of live 110 volt lamp cord leads with heavy lead clips on the ends. I wanted to connect them to a resonant circuit. So I suddenly grasped one of them in my right hand without realizing that I had been holding the other in my left on the table. My fingers gripped the clips tightly and I couldn't let go. But fortunately the electric shock made me jump involuntarily and in doing so I pulled the plug out of the wall. If I hadn't, some people might have said quite rightly: "It looks very strange; he knew very well what would happen if he picked up those live clips that way." I have had reservations about circumstantial evidence ever since.

And that reminds me of my special nightmare which showed up at long intervals over a period of about twenty years after the First World War. The general pattern was about the same each time. The setting was the lovely landscape of a French or English countryside, flooded by the rather peculiar light that sometimes appears around sunset. Then suddenly the peace and quiet would be broken by the flight and explosion of an artillery shell. When the smoke and dust cleared away, the green hillside showed a crater with a ring of fresh earth around it. This was the start of an intense artillery barrage that churned up the ground and threw us from one shell hole to another. All the time I wondered why it was that I was still alive and used to wake up feeling somewhat like Macbeth after he saw the ghost. I had one of these dreams the night we saw "Journey's End" at the theatre but otherwise I don't know why they came. Anyway they are just a memory now.

In the early fall of '34, Helen's parents came for a very enjoyable six weeks visit with us. It was four years since Helen and Margaret went to see them in Long Beach and over a year since that city was rocked by a severe earthquake. They were given a hearty welcome by many old friends. The list included a lot of old-timer names in Edmonton - Rutherford, Fife, Gillespie, McQueen, Mac Kenzie, McDougall, Bellamy, May, Revell and others. It was a busy and pleasant time and one we especially like to remember.

During these years, Brent and Elsie stayed with us for a few days from time to time when they came to Edmonton for meetings. They were active in the United Farmers of Alberta (U.F.A.), that swept the province in the 1922 election and remained in office until 1935. Brent was President of the U.F.A. in High River for years and was a member of the Central Executive. He represented the farmers of Alberta on the Debt Adjustment Board of Review (1934-36) of which Mr. Justice Ewing was chairman and our good friend, Stan McCuaig, was the legal member. Following the financial crash of 1929, many Alberta farmers were hopelessly in debt and some adjustments had to be made. When one farmer

was asked how he could justify the purchase of an expensive tractor for a farm such as his, he replied: "Gentlemen, what the Express of Britain was to Beatty (of the C.P.R.) that tractor was to me". (I hope he got some relief on payments for it.)

Brent and Elsie, with Ernest, Kathleen and Ben, were with us for Christmas '34. The third floor of No. 2 was very useful on occasions like this. On Christmas morning it was forty below. We were up by 7.30 to hear the King's Christmas message broadcast on a radio network that linked the Commonwealth. The two families had a happy Christmas week together.

We were used to having young people at the house then. They included students from High River: Marjorie Black, Sadie Tracey and Tom Stanley, and from Calgary, Margaret and Fred Glover and Walter Love whose parents were P.E. Island friends of ours. Every spring we had a party for the electrical graduating class along with some girls from Pembina Hall. Ernest began his electrical engineering course in 1935 and we saw more of him.

Our three continued to get excellent reports at school with honors and highly complimentary remarks by their teachers. Helen sent copies in a letter to her parents and revealingly added: "It is nice to know that, no matter how they behave at home, at least they seem to know how to behave properly at school." This may be encouraging to anyone with children who happens to read these notes of earlier days. They all had group piano lessons at school and took part in plays and concerts. Margaret took private lessons on the violin and learned to play quite well.

But there were many activities beside school work. The family had a ticket to the Garneau outdoor skating rink and we often went there together. We all had skis. Mayfair Hill might not excite the Norwegians but it, and the slopes around, were good enough skiing territory for us and only five minutes from home where we put on our skis. In the summers, an attractive spot was the swimming pool in the South Side Park, a lovely place. The girls were Brownies and Don a Cub. They all went to Sunday School in St. Stephens College on the Campus before we started taking them across the river to First Presbyterian Church where the Montgomery family had gone and Helen had taught Sunday School and played the hymns for years, before we were married. Dr. D.G. McQueen had been the minister there for over 40 years when he passed away after a brief illness in 1930. He was a part of Edmonton, where so many long remembered his ready smile, his kindly humor, his Scottish voice and his sterling qualities. Margaret, Dorothy and Don were in the children's choir. They all looked very angelic in their white surplices and purple ribbon sashes as they sang with the Church choir at morning service.

In those days the movies were always a source of attraction. The talkies came in about 1927 and coloured movies around 1935. Colour added greatly to the enjoyment of the pictures. It might be of interest to note a few of the movies we went to see in Edmonton. We took the children to such movies as, Little Women, Anne of Green Gables, Alice in Wonderland, Treasure Island, David Copperfield and some of Shirley Temple's. Some of the popular movies we saw were Disraeli, Old English, Clive of India, Lives of the Bengal Lancers, House of Rothschild and Royal Cavalcade. We sometimes went with another couple like Rob and Nina Gordon and perhaps to their home or ours for coffee afterwards.

The U. of A., like every university, had its share of organizations of various kinds in which many members of staff took an active part. The Philosophical Society held about a dozen meetings each session at which more or less popular lectures were given by different members of staff and others. They were generally well attended by people from the city and university. I gave two or three lectures some years apart, put in some time on the executive and was President of the Society for the session, 1930-31.

The Men's Faculty Club held monthly meetings where one of the members gave a paper which was generally followed by a lively discussion. It was a good place for a growing staff to get acquainted and air their views on various subjects. I was president of the Faculty Club for the 1934-35 session. On Faculty Club night a number of the Faculty wives, including Helen, got together at one of the homes for bridge and supper and also for the exchange of information.

The Science Association offered a way of learning something of what was going on in fields of science outside one's own. In addition to staff members, it was open to students and other interested people. Like many others, I took my turn in the several offices on the Executive and gave an occasional paper.

The engineering societies with branches in the province also made demands on the time of staff members in Applied Science. The Engineering Institute of Canada had an active branch in Edmonton which held regular meetings. In it too I was a member of the executive in one office or another for quite a few years and I attended a plenary meeting in Montreal as Councillor for Northern Alberta.

The Association of Professional Engineers of Alberta was authorized about 1920. The annual meetings were well attended by engineers from all over the province. These and other activities afforded an opportunity to get acquainted with other engineers and learn something of their work. I was Vice-President of the Association in 1935-36 and, in the normal course of events, would have been President the following year had we not moved to the University of British Columbia in the summer of 1936.

Dr. Tory was definitely opposed to fraternities and would not allow them at Alberta. This was probably wise when the University was young and rather small. However soon after Dr. Wallace came in 1928, fraternities and sororities began to appear on the campus. There were not many fraternity people on the staff so some of the fraternities asked two or three staff members to join. The sororities did the same with faculty wives and others. In this way, Helen became a Pi Beta Phi and I joined the Phi Kappa Phi fraternity.

Helen was also busy in different organizations in and outside the University. She took a great interest in the life of the women students, especially those in the Pi Beta Phi. Among other activities, there was the Book Club, the Sewing Circle, the Ladies' Aid of First Presbyterian Church and the Alumni Association of U. of A. Each year there were student plays, concerts, debates and occasional dances. All these with parties in our own particular circle of friends contributed toward a busy, varied and enjoyable life for us both.

The opening of our cottage at Kapisiwini Beach took place on May 24th, 1935. The weather was fine as we all drove out for the day. We had the Morrisons, Camerons, Hawes and Cecil Rutherfords with all their children for an afternoon party. They thoroughly approved of what we had done and thought the cottage most attractive.

On the last day of school we moved the family to the cottage for the summer. Every week or ten days, some of us went to town to pick up the mail, get some special provisions and let Julia do the washing at No. 2. I stayed in town at times to do some work at the office. A number of our friends had cottages at Kapisiwini and others would come out for lunch or tea. Kathleen MacLeod stayed with us for a couple of weeks and some other friends of the children for a few days each. It was a pleasant life with plenty of company but also time for leisure and altogether a happy holiday for us all.

The provincial election was held on August 22nd and we listened to the returns on the radio at the Rutherford cottage. It was a sweeping victory for William Abernethy and his Social Credit party. Not one member of the old U.F.A. government was elected and there was some concern about what the strange Social Credit philosophy would do to the economy of the province. The party has been in office in Alberta for over a quarter of a century now and still retains the confidence of the people with little opposition.

We knew John Brownlee, the leader of the U.F.A. government, and especially his wife, who followed me as teacher in the school near our old farm. She boarded with Mother who thought a great deal of her. Following the 1935 election, Brownlee was head of the Wheat Pool for years and never returned to politics.

There was a lot of polio in Edmonton that summer and the schools were closed until October 1st. So Helen and the children stayed at the lake until a few days before the schools opened. They had a three months holiday that year.

Helen's mother had an operation in September but was home again in a couple of weeks and news of her continued to be good. Helen planned to visit her parents after Christmas, but on December 24th, her father wired that her mother had passed away suddenly that morning. We didn't tell the children then as we wanted them to have a happy Christmas. The day after Christmas, Helen received a cheerful letter from her mother which was a great comfort to her. Her parents always made me feel that I was a member of the family. I called them Mother and Dad and it was good to share with them so many family gatherings. Their influence for good lives on and that is a kind of immortality that counts.

On Christmas morning we listened to the King's Christmas message to his people. Seven months before, the 25th anniversary of his accession to the throne was celebrated. In London there was a tremendous demonstration of loyalty and affection for the King and Queen and this was evident also throughout the Commonwealth. Never had the Royal Family stood so high. The King died on January 20th, 1936. We got up early to listen to the broadcast of the funeral service on January 20th and there was a memorial service at the University and in many city churches. Throughout a reign characterized

by great events and remarkable achievements, King George the Fifth's stature grew steadily in the estimation of the world.

In February, Dr. L.S. Klinck, President of the University of British Columbia, came to Alberta looking for men to fill several positions. Their Dean of Applied Science, R.W. Brock, had been killed in a plane crash and Dr. Vickers, the head of the Department of Mechanical and Electrical Engineering, had resigned. I had known Dean Brock as Second-in-Command of the 196th Battalion and Dr. Vickers had shown me through his department at U.B.C. Dean Brock was a geologist and Dr. Klinck said the powers that be in B.C. definitely wanted the new Dean to be a Civil Engineer. He had some good things to say about the Mechanical and Electrical Department and asked if I would consider the headship of the Department if it were offered. I told him I knew he was going across Canada and back by the States looking for men and if he still wanted to ask that question when he got home, I would be interested. He said that was fair enough and that was as far as it went at the time.

Helen's father had a heart attack in April and had to have a nurse all the time. So we got the good old reliable, Mrs. Baird, again and Helen went to Long Beach where she rented an apartment for a month, just across the hall from her father's. Her brothers flew out from the East for a few days before she left and one of them stayed on.

I met Helen in Vancouver and we had a week there in the Georgia Hotel. The weather was fine and friends gave us a good time. Walter and Jeanette Hutton, whose children also called us Aunt Helen and Uncle Hector, had moved from Edmonton to Vancouver where he was head of the Sun Life office. At their home, we met Dr. and Mrs. Buchanan; he was the genial Dean of Arts at U.B.C. Dr. Klinck took us to lunch and showed us around University Hill and the Campus - a beautiful place in a magnificent setting. After his trip East, he had offered me the headship of the Mechanical and Electrical Department, but a new Dean of Applied Science had not been appointed and we wanted to know who would be the new Dean before deciding. Things had not changed in the meantime and our position remained the same. The next evening when we got back to the Campus Circle, No. 2 looked so peaceful and attractive against the brilliant colors of the sunset that we hoped no one would ask us again to leave it.

A couple of days later, the children took part in a school broadcast. Margaret played her violin and the twins sang in the chorus and played in the rhythm band. Then, with Alice Cameron, we all went to a movie. Thus the family settled down to normal life again.

Going back a little way, there was an explosion in the South Side Electric sub-station No. 500 on the morning of March 12. Being an electrical accident, Wilf Cornish and I went to look it over. The station was automatic and no one was near it at the time. It was a brick building with the two main transformers outside at the west end. Both ends had been blown out and the bus-work from inside was thrown on top of the two transformers. The south wall with windows was bulged out like the side of a ship but the windows were not broken. This accident was followed by failures in two main cables in the City Power Plant, a day or two apart. Then a breakdown in the Plant rectifier interrupted street car service for a short time.

The City Electric Plant had been quite free of such accidents^a and the authorities were worried. The City Commissioner, J.R. Gibb, asked me to investigate them and asked for a written report on the sub-station explosion and also to examine the cables to find out, if possible, the cause of the trouble there. He added that the Alberta representative of the C.G.E. would come to Edmonton any time to talk the matter over.

Without going into details, the explosion followed a short circuit caused by a bolt screw that had fallen into a General Electric Voltage regulator. It fell against the coils and, due to their occasional relative motion, had gradually worn away their insulation. There was no way of telling when the bolt had fallen in or who was responsible. Calculations showed that the short-circuit current was far larger than should have been allowed, due to the very low impedance of the power transformers which were quite old. In my report, I recommended that the City install current limiting reactors in a number of electric feeders. In a talk with the Commissioner, I suggested that the City deal directly with the Company in the matter of repairs and get a University graduate on the staff familiar with circuit analysis and short-circuit calculations. Both suggestions were acted upon and I didn't hear of any further accidents to the system.

For some years I was fortunate in my connection with the Calgary Power Company and in having something to do with a number of other engineering investigations in Alberta. Such work helps to keep an Applied Science teacher in touch with practising engineers and is good experience as well. The General Manager of Calgary Power then was Harry Thompson who had been a year ahead of me at McGill and the President was Geoff Caherty who was also in the Montreal Engineering Company. He had rooms in the Palliser Hotel and there I met some interesting people, among them Leonard Brockington, an outstanding public speaker and later the Chairman of the C.B.C.

I had a long talk about Dr. Klinck's offer with Dr. Wallace. He thought it should have been the Dean's position and said the Board would match any head of department salary offered by U.B.C. He kindly added that perhaps I didn't realize how much importance was attached to my influence in the life of the University by many there. He spoke favorably of Dr. Klinck and gave me a good deal of information about U.B.C. and some problems there following the depression.

About the end of May, Dr. Wallace accepted the Principalship of Queens University, a position for which he was eminently well qualified. Soon after, Dr. Klinck wrote me that the Head of Civil Engineering at Manitoba was going to U.B.C. as Dean of Applied Science. Dr. Klinck again offered me the position of Head of the Department of Mechanical and Electrical Engineering at a salary of \$5500 per annum, the highest salary then for a department head at U.B.C. It was the salary of a Dean in Alberta where \$5000 was the top for a department head. The Board of Governors immediately offered me \$5500 to stay in Alberta.

As it happened, we had been reading Eliss Perry's autobiography, "And Gladly Teach" that spring. He had been one of the great teachers at Harvard when we were there. In the book, as I remember it, he tells of moving from a small college staff to a university in his younger days. But

before doing so he wrote to a friend who had made a similar move some years earlier. The friend replied that such a move was somewhat like transplanting a tree, rather hard on the tender roots but likely to produce new growth. With this in mind we went to Vancouver to look over the ground again before deciding to transplant the family.

We told Dr. Klinck we would like to find a suitable house for rent before making a definite decision. We had lunch with Dr. (Mrs. J. B.) Morris in her spacious home in Shaughnessy. She was on the Board of Governors of U.B.C. After lunch when Dr. Klinck went to get his car, she put in a good word for him and the University and said she hoped we would decide to come to U.B.C. In the afternoon Dr. Klinck drove us around the area and we found a house we liked at 1837 McGill Road, University Hill. It was for sale by Dr. Gaddes. He met us next day at the hotel and after talking for a while, agreed to rent it to us for a year at \$60 a month. We accepted Dr. Klinck's offer, sent a wire to Dr. Wallace and signed a lease for the house.

The next day Dr. and Mrs. Klinck took us for a picnic lunch in Stanley Park. In response to our enthusiasm over the soft air and delightful climate, he indicated that it was not always so bright and sunny. Before we left Vancouver we made a plan to scale off the house at 1837 McGill Road, measured the windows for curtains and arranged for the Hudson's Bay to put down linoleum in the kitchen.

A few days after getting home, we all went to the lake for the holidays. We knew that it would likely be our last summer there and the cottage seemed more attractive than ever....Two or three people wanted to buy it but we sold it, as was, to our good friends, Charlie and Alice Hurlburt, for less than it cost.

Helen and I spent a good deal of time at No. 2, sorting out the accumulation of fifteen years into things to take, to give away, for the Salvation Army and to burn. Anyone with similar experience will know what that means. While in town we had a number of invitations out and among them, Mrs. Rutherford had a lovely tea party for Mrs. Wallace and Helen at which there were about fifty people whom Helen wanted to see before leaving. The Pi Beta Phi fraternity also had a tea for Helen at the MacDonald Hotel and presented her with a half-dozen sterling Pi Phi spoons as a parting gift. The Men's Faculty Club gave a dinner for Dr. Wallace and me at the Mayfair Golf and Country Club. There was a large turn-out and, with some generous remarks, they presented each of us with a framed picture. Mine is a water color of Edmonton from Gallagher Flats by A.C. Leighton. I like to think of it as showing the emergence of a modern city from a pioneer town. It has been a pleasure to us ever since.

At the lake, we had a big birthday party for Mar, Don and Do on July 11th. Helen and I went back to town and soon after heard that the children had been exposed to chickenpox at the lake. There was the possibility of being quarantined in Alberta for weeks and on Dr. Leitch's advice, we decided to leave by train as soon as possible. This upset our plans for a leisurely trip to Vancouver by car. Julie wanted to go with us, so she went home to see her people and Mrs. Baird came to help. The neighbors were good in having us in for meals. The Morrisons were leaving for a

holiday at Jasper and asked us to use their house, as our furniture and things were being crated and shipped.

In case the children developed chickenpox, we sent some bedding by express, so they could stay at home in Vancouver, and shipped our car with mattresses to be there when we arrived. We left No. 2 empty but clean and it wasn't long before another University family brought it to life again.

We arrived in Vancouver on the morning of July 25th, Margaret's birthday, and a fine summer day it was. Our car was there and we drove out to 1837 McGill Road to unload it. After lunch in town, we showed the children some of the beauty in and around Vancouver. In the evening, we made up the beds on the floor at 1837 and settled down for a night's rest. We have never regretted the move. (P.S. We left the chickenpox in Alberta.)

THE UNIVERSITY OF BRITISH COLUMBIA

Less than a week after we arrived in Vancouver, we had the curtains up and all the furniture in place. Julia was back on the job and we welcomed some Edmonton friends for lunch, who were the first of many that year and in the years to come. They were Dr. and Mrs. Wallace and their children, Sheila, Brenda and Elspeth and also Gladys Allan, her mother and Edward. All were amazed to find how quickly we had settled in.

After lunch we went down to Spanish Banks where the youngsters played in the water and sand. The rest of us reclined against a log and looked across English Bay to the blue sky and the mountains on the other side. After a pause in our talk, Dr. Wallace changed the subject by saying: "I don't think you made any mistake". Perhaps the view reminded him of the rugged scenery of his Scottish homeland and he thought that British Columbia had its attractions too.

The weather that summer of 1936 was wonderful and we often went to Spanish Banks for a swim and a picnic supper after. There were no flies or mosquitos there and we never tired of the view. But when we called attention to these things, the children, especially Margaret, would say, "No better than the Saskatchewan River". It was a long time before Vancouver gained first place in their thoughts.

Many University people came to call and invited us to their homes. The Cullwicks who lived just back of us on Western Parkway were especially kind. He was a member of the Department in Electrical Engineering. Walter and Jeanette Hutton and others in the city welcomed us to Vancouver. A week after our arrival, we were invited to a Sunday afternoon garden party at the Nowlans'. They lived not far from us and Dr. Nowlan was in the Mathematics Department. The party was for his fiftieth birthday; the day was fine, the refreshments good and the people friendly.

About the middle of August, Dr. Weir, the Minister of Education, gave a lecture at the University and Dean Buchanan asked me to a luncheon

for him following the lecture. At the luncheon Dean Buchanan introduced me to a dozen or so senior members of Staff. There were some references to Social Credit and I said that some other time I would tell them all I knew about Social Credit and it wouldn't take long. They would have scorned any suggestion that, within twenty years, British Columbia would have a Social Credit government - and a good one too.

On August 30th, Helen got a telegram that her father had passed away following one of his heart attacks. After her mother died eight months before, he and Helen wrote to each other every day or so and she got his last letter two days later. On a previous page I have expressed my high regard for Helen's parents. The next day her cousin, Ann Thompson, arrived from Pasadena and stayed with us for a month. She was a grand visitor with a fund of stories, wit and humor and a regular tonic for Helen.

The day Ann left, the Bob Browns from Calgary took us all for dinner at the Devonshire and we had them with the Huttons at the house for dinner a few days later. Bob Brown was interested in Alberta oil and told me once, that if ever I wanted to gamble a few hundred in oil he would look after it for me. However we preferred to invest in Government bonds and missed the boat for not so long after, Brown's Home Oil struck it lucky.

The John Finlaysons arrived about the end of September. He was the new Dean, a Maritimer from Nova Scotia and a McGill graduate, which gave us much in common. We called on them and gave them the benefit of our wide experience after two months in Vancouver. A few days later, Helen had a tea for them and several other people from Applied Science. We liked them both. Never far from his pipe (like Stanley Baldwin) he gave the impression that, as he often remarked, "Everything is under control". It wasn't long before he began to discuss with me all important matters concerning the Faculty and I took over his duties whenever he was away from the University. We became good friends with never a row.

Now for a look at my colleagues in the Department of Electrical and Mechanical Engineering. They were almost all Englishmen with background and training different from mine.

E.G.Cullwick, Assistant Professor of Electrical Engineering, was a Cambridge man with a good knowledge of electrical theory and an independent mind. I introduced him to "The Logic of Modern Physics" by P.W.Bridgman of Harvard. It inspired Cullwick to write a book of his own, entitled "The Fundamentals of Electro-Magnetism", published by the Cambridge Press, 1939. It is the only book in which my name appears in acknowledgements and the prologue shows Cullwick's command of the English language.

W.B.Coulthard, also an Assistant Professor and an Electrical graduate of London, came by way of the Far East. Some of his characteristics may have been picked up in Malaya, but the students liked him after they got used to his rather gruff manner which was mostly put on. He had published a little book on Heaviside's Operational Calculus and gave a short course in it. He was the Student Branch Counsellor for the Vancouver Section of the A.I.E.E. for years. When he went to apply for admission to the Association of Professional Engineers of B.C., the Registrar didn't recognize him and said: "You don't look much like a professor". Coulthard's comment was: "Thank God for that". I think he enjoyed being a bit of a non-conformist.

F.W.Vernon, Associate Professor of Mechanical Engineering, was a pleasant Yorkshireman. He remembered the students and their names for years back and could generally say when they graduated. His diagrams in colored chalk on the blackboard were works of art. The students appreciated them, but other lecturers, who had to clean the colored chalk from the board, did not.

Captain J.F.Bell, O.B.E., Assistant Professor of Mechanical Engineering, was a retired Royal Navy Officer. He treated a class of students as if they were officers in training. After a lab was finished, Captain Bell, as he was always called, would have a cup of tea with the students, and indirectly have them realize what was expected of a gentleman. In his unassuming way, he was a good influence on the students.

Major R.R.West was a Lecturer in Mechanical Engineering. He was more at home in an army officers' mess than in a Faculty meeting and in the spring of 1937 he ended his experience on the University Staff.

H.P.Archibald, an Assistant in Mechanical Drawing, was a McGill graduate with experience in Mechanical Engineering. He gave up university work and became a consulting engineer in Vancouver.

Walter Lind, with an M.Sc. degree from U.B.C., was a demonstrator in the Electrical Laboratories. The following year he went to the Canadian General Electric Company and eventually became manager of the Lighting Division in Vancouver, but kept in touch with the Department.

J.Kinloch, the instructor in Machine Shop work, and his assistant, J.Miller, who also looked after the machines in the Mechanical Labs, were from the Old Country too.

Dr. Vickers, the former head of the Department, was an Englishman. I had the impression that he was the Professor (with "the" underlined) and the others were his assistants. I gathered that he administered the Department without reference to them. My policy was to treat the members of the Department as a team and to discuss with the senior ones, at least, such matters as curriculum and the allocation of funds available for new equipment. They seemed to appreciate the change and, considering our differences in background, we got on well together. At U.B.C. I found my doctor's degree in Physics from Harvard a distinct advantage, not only in the Department, but in the University generally and especially in my association with the people in Mathematics, Physics and Chemistry. At that time, no one else in the Engineering departments had a Ph.D. Now-a-days (1965) one would have little chance of getting even an assistant professorship without a doctor's degree.

In my first few years at U.B.C. an average of about 400 students a year registered in Applied Science and the classes in the Senior years were small. We got to know the students well and I found my class in the final year of Electrical Engineering a good group of students. I gave three of their courses; one on Radio Engineering and Electrical Communication, one on Electrical Machine Design and one on Electric Power Transmission and Distribution. The first two had lab or problem periods as well as lectures.

When the final examinations were all over in the spring of '37, we had a talk about the year's work. Among other comments, one of the students said: "You gave us confidence in ourselves". A few days later,

Moses Long, a Chinese student, brought a dozen red roses from his mother to our house. So students do sometimes show appreciation.

A new member of Faculty is often asked by various organizations to give a paper or a talk. My first at U.B.C. was an informal talk following a Phi Kappa Pi luncheon in the city. (I was a Phi Kap.) At the luncheon, I met, among others, Sherwood Lett and Arthur Lord. Over the years we came to know them through their participation in the life of the University.

I gave the November lecture of the Vancouver Institute on "Social Aspects of Science" at the University. Most of it I had given to the Philosophical Society at U. of A. The two organizations were somewhat similar and provided lectures of a more or less popular nature for the general public. Dr. Klink was there and Lemuel Robertson, Head of Classics, a staunch P.E. Islander who was pleased to see I had not let the Island down. Dr. Gordon Shrum moved the vote of thanks. It was the custom for some couple connected with the Institute to invite the speaker and a number of others to their home for refreshments after the meeting. Mr. and Mrs. George Winter, neighbors of ours, had between 20 and 30 people in that evening. We were invited to other Institute receptions during the winter.

Other organizations to which I gave a paper or talk that first year were; the Board of Trade, the School Principals, the Men's Club of Central Presbyterian Church, Extension lectures in New Westminster and Victoria, and the Canadian Electrical Association meeting at Harrison Hot Springs Hotel. The number of talks dropped considerably after the first year.

There were changes in the Department in the spring and summer of 1937. E.G. Cullwick went to the University of Alberta as Head of the Department of Electrical Engineering. S.C. Morgan, who had been with me at U. of A., came from Queens as an Associate Professor to take Cullwick's place. We were glad to have Stan and Gladys back. The appointment of W.O. Richmond and H.M. McIlroy as Assistant Professors strengthened the Mechanical side of the Department considerably. McIlroy came from Queens too. Richmond was a U.B.C. graduate with a Master of Science degree from Pittsburg, experience in research at the Westinghouse and in teaching at Case School of Applied Science. When we knew that these people were coming, we asked Mr. Dill to reserve a couple of houses on Western Parkway that were for sale. The Morgans bought one and the McIlroys the other. I doubt if they ever made a better investment. With these additions, the Department prospects for the coming year were good.

Our children were fortunate in being able to attend University Hill School. The teachers were good, the classes small and all twelve grades were taught. The University records of students from the Hill gave the school a high rating. At the end of the first year there, Margaret was at the top of Grade 8, and Dorothy and Don in the top three of Grade 6. Mar had skipped a grade in the Normal Practice School in Edmonton but still passed with honors. The Principal of Normal Practice, Mr. McDougall, had given us a recommendation which included the following: "During their attendance at the Normal Practice School, these children have been a source of delight and joy to all their teachers. They will be somewhat reserved and shy at first but possess any amount of ability and initiative."

Their other interests were not neglected. Mar continued with her violin lessons, Do took piano lessons and Don joined the Trail Rangers. There was tennis and swimming and a variety of school sports and other activities in which they all began to take part. In that first year too, they started making new friends, some of whom are still their friends a generation later.

By the end of our first year at U.B.C., we felt at home in our new surroundings. We were better acquainted with quite a number in the University and, as in Alberta, our friends were from all Faculties. P.E. Islanders are inclined to be clannish, and the Lem Robertsons and the George Robinsons were especially friendly. George Robinson was in Mathematics and had been the first Dean of Arts and Science. Lem Robertson was head of Classics and Director of the Summer School. Both had taught in McGill University College in Vancouver which formed the nucleus of the University of B.C. when the latter opened its doors in September, 1915. George Robinson retired before the Second World War and he and his wife went back to Charlottetown to live.

Lem Robertson's wife was, before their marriage, Floretta MacLeod. Their son, Norman, was a Rhodes Scholar. (He made quite a name for himself in the Department of External Affairs.) Lem Robertson was very proud of the Islanders and, according to him, the Deputy Minister of Education in B.C. and nearly all the High School principals in Vancouver and Victoria, at one time, had come from P.E. Island. The Robertsons were good to us and became two of our best friends in Vancouver. Lem had a remarkable memory and could entertain us by the hour with stories and reminiscences of earlier days and of the wide circle of people he knew, with Mrs. Lem, from time to time, interjecting a shrewd remark or telling a story of her own. They both had a delightful sense of humor and it was a treat to talk to them together. A visit with them was as refreshing as a holiday.

One day that spring ('37) Lem Robertson came over and told me that I had been elected to the X-Club. I had never heard of it. He explained that it was a very informal club started in the early twenties by a small group as a way of letting each other know something of what was going on in their respective fields. They did this by meeting one evening a month during the session and having a member give a paper on a subject of his own choosing related to his own line of work. This was followed by questions and discussion, often ranging far and wide and sometimes deep. Lem said that this was the first time they had invited anyone to join after only one year on the staff and that I should be duly impressed. Maybe after some of them heard my talk to the Vancouver Institute they thought it would be safe to let an engineer in. For some years I was the only engineer in the Club but they made me feel at home there. For me it was a source of good fellowship and of interesting information from many fields of study.

We had many visitors during the summer of 1937, most of them from Edmonton. Rob Gordon was teaching English in the U.B.C. Summer School. He and Nina and their four boys were living at Union College. We spent a lot of time together, at the beach, on trips and, with other friends, in our home and garden. All of which made it a very pleasant summer.

Before we left Edmonton, young Bob Gordon was looking forward to being in my classes at U. of A. After we moved, he came to U.B.C. and

registered for third year Electrical Engineering in September, 1937. He was frequently at our home during the next two years.

That summer we decided to get a house of our own and Mar and Do wanted it to have a room for each of them as they had in Alberta. There were several houses on the Hill for sale at reasonable prices but too small for us, so we had to build. University Hill was administered by the Government as a sort of Crown Colony under the name of the University Endowment Lands. Mr. Dill was the manager and we found him very helpful. There was a wide choice of vacant lots in the area and we chose one north of Chancellor Boulevard with the street number, 1529 Western Crescent. The streets and sidewalks were paved and rows of trees had been planted between the sidewalks and the street. Electric power and telephone lines were underground and the houses had to be set back sixty feet from the street. It was a very desirable residential area then and is today one of the finest in the city. The lot has a curved frontage of 92 feet and widens out to about 100 feet at the building line. It slopes from the street to the northwest and we decided on an L-shaped house, with one gable facing east to the street and another south, as the most suitable for the location.

It is a Tudor style house with two stories showing at the front and three at the back, where the door from the recreation room (under the living room and terrace) opens at the garden level. By his arrangement of the terrace, balcony, walls and roof at the back of the house, the Danish architect, Mr. Noppe, avoided the impression of height and created a very pleasing effect. The house was finished in light cream colored California stucco and dark brown timber with cedar shakes on the roof. Two chimneys of wire-cut brick with widened bases of brick and stone are special features of the house. The one in the angle of the L links up with the brick and stone work around the heavy oak front door.

Inside, at the south end of the hall, double glass doors open into the living room which extends across the house from east to west. Near the west end, a glass door leads to the dining room which extends another six feet or so further west. Thus the living room and the dining room form a side and an end of the terrace which has a door to the dining room at one end and a few steps down to the garden at the other. The den and the breakfast room are at the north end of the front hall with a washroom between them. The large kitchen has a door and steps leading down to the driveway and two car garage.

Upstairs there are four bedrooms and two bathrooms. The master bedroom over the living room has a balcony to the west above the terrace. One of the bathrooms has the piping in but only a washbasin installed. In our day it was otherwise furnished with a rug, table, bookcase and rocking chair and was my cozy retreat. Many were the hours I spent there preparing lectures and talks and marking hundreds of papers. Things could be left as they were and I always felt better after two or three hours of satisfying work in the old rocking chair.

The basement floor is at ground level at the back of the house and is all finished except the furnace room, storerooms and laundry. The large playroom has a full-sized window facing on the back garden. There is a nice room and washroom with shower originally intended for a maid.

The doors and trim of the living room and front hall and the banisters of the open stairway are all of Philippine mahogany. The den is panelled with natural red cedar to within a foot and a half of the ceiling. All the floors are made of hardwood; those on the main floor and upstairs are oak with a border design.

The house has three fireplaces and a General Electric air-conditioning oil furnace. The Company designed the duct work so that it would not show in the finished basement rooms. The control unit in the front hall changes automatically from day to night temperature and back. Also a summer switch may be turned on at any time to ventilate the rooms with unheated fresh air - very convenient for large parties.

It was a good time to build. Carpenters' wages were about 75 cents an hour and the contractor, Mr. Frost, employed good men. The workmanship and finish throughout were of high quality.

Professor Buck made the plan for the garden and George Boving did the grading, planting and seeding. The garden is terraced in three levels, with two to three feet difference in elevation. It grew to be a very attractive place and for some years Prof. Buck used to show it to his students in Horticulture as an example of what could be done with a somewhat sloping lot.

Lots in the area could be bought outright from the government or leased for an annual rental of 6% of their value (I think it was). Ours was valued at \$2475 and we rented it for the first year. Then, in June, 1938, it was agreed that we would be allowed the 25% reduction in purchase price which had been in effect sometime before. So we bought the lot for about \$1850 to be paid in four annual instalments plus 4½% interest. The house had already been paid for, so the property was entirely free of debt at the end of three years.

We moved into our new home on December 21st, 1937. In a way, it was a grand Christmas present for the whole family. To us, it was a lovely house and the glorious views of the water, the mountains and the sunsets never lost their appeal. At the rear of the house, the sheltered and secluded garden offered sunshine or shade on warm sunny days, the playroom added to the fun of parties and a glowing fireplace in the living room or the den radiated warmth and cheer on many winter evenings. It was a wonderful place to live.

The Gordons gave us a guest book for the new house. Margaret had kept the names of all out-of-town visitors, since we came to Vancouver, in a little book. When we moved to 1529, a year and a half later, she had 150 names in it.

A few months later we bought a new Bendix washing machine for \$230. It was the first we had that did not need a wringer. Except for the lot, the Bendix is the only thing we remember having bought on time. After a month or two, we got fed up with the business and paid the whole thing. The Bendix proved very useful, especially after Julia left.

Congregation week in the spring of '38 was a busy one. Among other things, we had the Buchenans, Clarks, Gillies, Hutchinsons and Knapps in for supper after the Baccalaureate Service. They were among the people we got to know well at U.B.C. A few days later, we had

a dinner party for the Sherwood Letts, John Finlaysons, Orson Benfields and Frank Smiths. Then we all went to see the Alumni Play and came back to the house to talk it over. The Players Club and the Musical Society at U.B.C. put on some very good performances.

Early in July, we packed the car and went by Nanaimo to Parksville. There we got the Harrison cottage we were in ten years before. It hadn't changed much and Parksville was the same quiet and peaceful place. The weather was good and we often put up a lunch and drove to such places as Englishman's River, Cathedral Grove, Qualicum Falls and Cameron Lake. On our way home, we stayed at Craigflower Auto Camp, Victoria and went to see our cousins there. We took the ferry from Sidney to Anacortes - a beautiful trip - and had a couple of days in Seattle before driving home.

Soon after, Ibe and Kathleen Morrison and young Harold stayed with us for a few days. They thought we were fortunate to be living in such a lovely place. One day Ibe and I went to look over the new Lions Gate Bridge which was being built. The main cables over the towers were strung but the vertical ones supporting the road-bed were not in. There was a cat-walk to the top of the Park end tower, suspended from one of the main cables. It was not very stable but we climbed to the top of the tower and admired the view. The day before the Morrisons left, the four of us had dinner with Stan and Gladys Morgan at the Grouse Mountain Chalet. Then we watched the lights coming on gradually all over the city. It was a good show for the Morrisons before they went home.

It is time to bring our neighbors into the picture, especially the ones with young people who became friends of our family. Dr. and Mrs. Carrothers and their four boys lived next door. Dr. Carrothers was Chairman of the Public Utilities Commission and spent most of his time in Victoria. Mrs. Carrothers (Betty) and the four boys were musical. She and Gerry played the cello, John the trombone, Brian the violin and Fred the clarinet. As Helen played the piano and Mar the violin, they soon began playing together and it was not long before they supplied the music for Union College Chapel.

The Thomsons lived opposite to us in a large house across the street. They were Mrs. Thomson (Dot) and the family, Nan, Lorraine, Dougal and Bob. Dr. Thomson had died before we moved to Western Crescent. The Thomson house was then the only one in the block on their side of the street and all the area to the north of us was practically vacant. Dougal Thomson, Marion Manson and Helen Morgan were in the same grade as Mar at school and Maxine Johnson in the grade below. These girls became Mar's special friends. Marion's father was Mr. Justice Manson and Maxine's Dr. Johnson, a dentist. Both families lived up the street on Western Parkway.

Stuart and Florence Schofield, with their daughters, Mimi and Frances, lived on Newton Wynd. Stuart, a professor in Geology, had been a lieutenant in the B.C. Company of the 196th Battalion. He and Florence were Queens graduates. Florence became one of Helen's best friends. She was a great one for quoting poetry and, we suspected, still believed in fairies. If there were any on the Hill, they would most likely be found in the trees behind the Schofield home. Mar and Do often went to the Schofields and came home with remarkable tales told in Mimi's picturesque style.

The Dudley Simpsons came to the Hill before the war and their daughter Barbara and Frances Schofield became Dorothy's special friends.

Don's closest friend was Archie Young. His father, John Young, was Superintendent of the University farm. The Youngs came from Scotland and had a fine family of four boys and three girls. Charlie and Ken MacPherson, whose father was in the University Hill Fire Department, were also in the group. There were, of course, many other school friends beside the few mentioned here. A dozen or so of them would be at the house when any of our family had a playroom party.

The session 1938-39 was our third at U.B.C. and we found ourselves taking a more active part in various organizations. Helen had gone to the Pi Phi fraternity regional conference in Seattle earlier in the year. She was on the Executive of the Faculty Women's Club and had joined a study group in the University Women's Club, also a book circulating group on the Hill. She invited the members of the Faculty Women's Club to our house for one of their regular meetings - about forty-five present.

After being taken to the Monday Art Club once or twice by Florence Schofield, Helen was invited to join. They were a rather select and interesting group that she enjoyed immensely. One of the highlights of that year was a weekend spent on Gambier Island at the summer home of Mrs. Lawrence Killam, one of their members. In Union College Chapel, besides assisting with the music, Helen was Secretary of the Women's Association and later was leader. I was one of the Stewards on the Official Board of the Chapel and, as it turned out later, Secretary of the Board for many years.

There are three engineering organizations in Vancouver through which I got to know a large number of professional engineers in the province. Soon after coming to B.C., I applied for and obtained registration as a Professional Engineer. In 1939 and 1940, I was a member of Council of the Association of Professional Engineers of B.C. I transferred also to the Vancouver Branch of the Engineering Institute of Canada and, in the course of time, became a member of an E.I.C. Executive.

I was a member of the American Institute of Electrical Engineers (A.I.E.E.) in Edmonton but there was no Section there, and it was good to find a very active Vancouver Section with well over 100 members. It was largely through this Section that I got to know so many electrical engineers in the city; among them, F.J. Bartholomew (Barth), Harold Crosby, Douglas Robertson, Len Stacey, Oscar Vilstrup, Tom Clark, Jack Steede, Chub Arnott, Tom Ingledow and John Hedley. Jack Tames, then Harold Crosby's right hand man in the Westinghouse Office, was one of my old students. It was not long before I found myself on the executive and then Chairman of the Section for the year, 1938-39. In the spring of '38, I attended the Western Meeting of the A.I.E.E. in Portland and again in June, '39, I was the Vancouver Section representative at the International Convention of the A.I.E.E. in San Francisco. Everything, from the numbers present to the entertainment, was on a scale that I had never experienced before. And the San Francisco area, from Nob Hill and Fisherman's Wharf to the marvellous bridges and the University at Berkeley, is a place to remember.

In June '39, I was appointed Technical Adviser to the Public Utilities Commission by Order-in-Council. About the same time the Commission began its inquiry into the operation of the B.C. Electric Company. The purpose of the inquiry was to determine the appraised value of the Company's property, the cost of service and other factors necessary to arrive at a proper rate base and a fair rate of return for the Company. It took over two years to obtain the necessary information, lay down the procedures for Commission regulation and make all this material available to the public for study. Then a series of public hearings was held to give all interested parties an opportunity to present their views- and there were many. But eventually a sound basis of regulation was established and the Company's operations and rate schedules became subject to Commission approval.

During this investigation (and from books I read in connection with it), I learned a good deal about such things as appraisal methods, the classification of property, rate base, depreciation, rate of return, cost of service and determination of value. "Value is a word of many meanings" (Mr. Justice Brandeis), and one must define clearly the "value" used in any particular case. S.R. Weston, the Commission's Chief Engineer, and I talked these things over by the hour. From long experience he knew the Electrical Power business well and I learned a lot from him.

I was with the Commission for five years at a nominal retainer and expenses. But the knowledge gained about the operation and control of Public Utilities was the best return. It was valuable in my teaching work and proved to be doubly so some ten years later when I became a member of the B.C. Power Commission. I sometimes told my students that one can never tell what knowledge picked up by the way would prove invaluable later on. The military work I did at McGill, with little idea of ever using it, is another example.

On a lovely day in May, Vancouver gave a royal welcome to King George and Queen Elizabeth who were on a Canadian tour. Dorothy is a royalty fan and even the Queen might be interested in looking through her scrapbooks on the Royal Family.

About the same time we exchanged our Dodge car (which we had bought in '33) for a new four-door Plymouth sedan. Margaret named the new car, George, in "honor" of the Royal visit. The main reason for getting George was to have him take us to Alberta that summer. H.E. Smith (U. of A.) was teaching at Summer School and we let the Smiths stay in our house in exchange for the use of their cottage at Kapesiwin.

On our trip to Alberta we drove through the States and the magnificent scenery of the Logan Pass to High River for a visit with Brent and Elsie and family. Brent had been elected Mayor of High River (and held the office for twelve years). Ernest had just graduated in Electrical Engineering from U. of A. and was working for Calgary Power. Kathleen was home from University and Ben and Muriel had grown a lot. The weather was warm and it didn't take the two families long to make for the swimming pool in the Little Bow river again. With Elsie and Muriel, we took in the Calgary Stampede; the colorful parade, the exciting rodeo and the chuckwagon races. All of this was new to our children.

While in Edmonton, Helen and I stayed with the Morrisons, Max with the McCuaigs and Don and Do with the Allans. At a round of luncheons and dinners, we were brought up to date on much of the news. Max and Vera (May) Fife from Boston were there on holiday too. Max had left U. of A. in the early twenties and was on the Staff of M.I.T. The Allans invited some 40 friends to a party for the Fifes and the MacLeods. With everyone in good cheer, it was a happy reunion.

We found the Smith cottage at Kapasiwin Beach very comfortable. The McCuaigs and the Cecil Rutherfords had cottages there and with them and other friends we had a wonderful holiday. Kapasiwin is on the road from Edmonton to Jasper, so we drove up there for a few days to see the Park and to visit the Charlie Robbs who were in a cottage there. The day we left Edmonton, we had a well remembered breakfast with Dr. and Mrs. Rutherford in their lovely home.

We met Brent and Elsie and family in Banff where we had the same duplex house we were in five years before. Amid all the grandeur of Banff, the great attraction was still the warm water of the Cave and Basin.

We drove home by way of Fairmont Hot Springs and Grand Coulee where we toured the great dam and power plant; then through the desert and past the weird chasm of the old Columbia River dry-bed - the work of ages before the river changed its course to the sea. After shopping in Spokane, we hadn't much money left when we got home, but it was a great trip.

In September, Julia, who had been with us for nine years, married a Scotch lad in Vancouver. The wedding was at his people's home. Helen played the wedding march accompanied by Margaret with her violin and I gave the bride away. We missed Julia and did not get another regular maid for a year or more.

THE WAR YEARS - 1939 - 1945.

The outstanding event of that fall (1939) was of course the outbreak of war. After a year of uneasy peace, Germany invaded Poland on September 1st and Britain and France declared war on the 3rd. Within a few weeks the Polish army was crushed and the Germans held Warsaw, the Russian army marched into Poland and Hitler and Stalin divided the country between them. Then, for the armies and the air force there followed some six months of what Chamberlain called the "Twilight War" until it broke out with appalling fury again in April, 1940. The German army, with air support, rolled through Denmark, Norway, Holland and Belgium and on into France. By June the French armies were in confusion, the British in peril and the Germans in Paris. The French Government under Marshal Petain and General Weygand capitulated. Over 300,000 officers and men of the British Army were miraculously evacuated from Dunkirk with the aid of hundreds of little ships. Practically all of their equipment had to be left in France where the loss of British planes was also heavy.

The situation was grim. (However, as a London taxi driver expressed it: "Now we are all alone, the whole 400 million of us".) Only a few weeks before, Churchill had become Prime Minister and under his inspiring leadership the people were united, resolute and firm.

In July, the Battle of Britain began with enormous air raids intended to prepare the way for the great German invasion. But by the end of October after terrific fighting and the loss of over 1700 aircraft (according to their own records) the Germans gave up hope of supremacy in the air. The Royal Air Force, starting with fewer planes, lost about 900, but emerged triumphant and Britain was saved. In the House of Commons, Churchill summed it up in his oft quoted words: "Never in the field of human conflict was so much owed by so many to so few". Nor should the people of Britain be forgotten who met the ordeal with courage and "manned the workshops under fire as if they were batteries in action."

There was no "Twilight War" at sea. The Cunard liner Athenia was torpedoed the day war was declared and the aircraft carrier Courageous and the battleship Royal Oak were sunk within a few weeks. But the Royal Navy lived up to its tradition. Its losses, especially around Norway, were considerable but the German Navy was so severely mauled that it was never a factor in the invasion threat. But German U-boats, aided by magnetic and acoustic mines, threatened the very existence of Britain's life lines.

Behind all this open conflict, a secret war was being waged, about which the public heard little or nothing. It was a war between the scientists of the opposing sides and a new invention or the creation of some radically new weapon by one side or the other often determined the course of events in the actual fighting.

In the first month or two of the war, the loss of ships in and around British harbours was heavy and increasing at an alarming rate. The ships were not sunk by ordinary surface mines that were attached to anchored cables. They could be dragged from their moorings by mine-sweepers and destroyed. When a ship struck one of these mines, it blew a hole in the ship's hull near the bow and the surface of the water. But when a British destroyer, that was sunk with great loss of life, was examined, it was found that the steel plates along the keel had been torn apart by a terrific explosion beneath the ship.

On November 23, 1939, the first of these new mines was discovered at low tide and taken apart by British scientists at the risk of their lives. This mine had a magnetic needle that was deflected by the magnetic field of a ship passing overhead or near by. The deflection closed a battery circuit and detonated the mine. This ingenious magnetic mine was far more deadly than the surface mine. It was laid on a fairly shallow sea-bed and could not be found by mine-sweepers at that time. Its path of danger was ten times as wide since a ship had only to come near enough to deflect the needle. In addition, its destructive effect was immensely greater as no energy was wasted in the air.

This first type of magnetic mine was activated by the downward north pole of a ship's vertical magnetism. The British quickly countered by laying coils of copper cables around the decks of ships and reversing their magnetic fields with direct current in the coils. A south pole would not activate a mine. A ship equipped with such coils was said to be "degaussed", (a technical term derived from the unit of magnetism). More than half the total loss of 200,000 tons in January, 1940, was due to magnetic mines. No ship was safe without D.G. coils and for a time,

the British were using hundreds of miles of cable a week. It was a costly business and employed thousands of men who were so badly needed elsewhere.

Canada decided to share the burden. The National Research Council (N.R.C.) was the scientific headquarters of Canada. When war broke out, the President, A.G.L. McNaughton, resigned to take command of the First Canadian Division and was succeeded by Dean C.J. MacKenzie of Saskatchewan. (He had been a lieutenant in the 196th Battalion, and McNaughton was a demonstrator at McGill when I was a student there). The Council kept in touch with Canadian Universities by awarding research grants and by appointing staff members on its "Associate Committees". It could thus bring together an efficient team for almost any research project. In the war years the Council's staff increased from about 300 to nearly 2000.

In the spring of 1940, the Royal Canadian Navy started equipping ships with D.G. coils in H.M.C. Dockyard, Halifax. The Navy had no research organization of its own and the National Research Council took on the job of measuring the strength of each ship's magnetic field and determining the proper current for the D.G. coils when the ship approached British shores or whatever port it was headed for. Drs Henderson and Johnstone of Dalhousie University were taken on the N.R.C. Staff and were in charge of the Council's work in Halifax.

It was the intention of the Navy and Council to extend this work to the Pacific Coast and C.J. MacKenzie invited me to go east at the Council's expense, join in their work at Halifax and later take charge of it in Vancouver. I left home early in August, spent a couple of interesting days with Boyle in the N.R.C. labs and half a day with Capt. J.F. Bell (of U.B.C.) who was then Commander Bell, R.C.N., Director of Naval Mechanical Development, Headquarters, Ottawa. He and I had a pleasant half-hour with Admiral Nelles, Chief of Staff, who emphasized the importance of scientific work in winning the war. In the Parliament Buildings, I took the Oath of Allegiance and the oath of secrecy.

With a good deal of information gathered in Ottawa, I went on to Halifax where I stayed at the Nova Scotian Hotel for over a month and worked with Henderson and Johnstone. Henderson had just returned from England with the latest on ship protection there. They had built a magnetometer to measure the magnetic field strength under a ship. I remember improving it somewhat by substituting a disc type of commutator for the cylindrical one. We could do such work in the Dalhousie machine shop. The magnetometer was enclosed in a water-proof wooden box and suspended below the ship's keel by ropes over the sides. Its depth was determined by a pressure gauge. Field strength readings were taken at intervals from the bow to the stern of a ship. It was a rather slow method but the best available at the time. This work at Halifax was good experience and came in useful later.

H.M.C. Dockyard was well guarded by the R.C.M.P. and I carried a pass from the Naval Superintendent that stated; "The undersigned is to be permitted to enter this dockyard at any time".

Alan Cameron (formerly U. of A.) was President of Nova Scotia Tech then and I had a weekend with him and his family at their cottage

by a lake. On the way home, I spent a few days with Hattie and Heath on the old family farm on the Island and then with Brent and his family in High River. The Islanders still kept the even tenor of their ways and the prairie farmers who had survived the depression years had better prospects ahead. It all added up to an informative and enjoyable trip when I got home soon after the middle of September.

Through the Research Council and Commander Smithers of the Navy, I was kept up to date on developments in ship protection. Cdr. Smithers was D.G. Range Officer in Vancouver and my opposite number. He was a most cheerful companion. The British soon developed what they called an "open range" method of obtaining graphs of a ship's magnetic field, known as the ship's "magnetic signature". The range consisted of a line of coils laid off-shore on an east-west magnetic bearing and connected by electric cables to a recording station on land. Ships to be ranged sailed over the line of coils on a magnetic north-south course, making several trips back and forth. It was a most efficient method of obtaining the information required. One of these D.G. Ranges was later installed at Halifax and a study of suitable sites for a similar range in Vancouver began.

In the spring of 1941, Jim Brown was taken on the M.N.C. staff for Vancouver and started work at the Halifax range to gain experience there. Jim was the son of Dr. J.G. Brown of Union College, a 1940 Rhodes Scholar from U.B.C., who graduated in Physics that year. The next few years proved that a better choice could not have been made for our work. There was some delay in getting special instruments from England but the Vancouver Range was in operation by March, 1942. Before giving a description of the range, some other interests of the period will be recorded.

In the University, students in Applied Science were advised by the Military to go on to graduation before enlisting in any of the Services. The war had a sobering effect and the students quickly got down to business every fall. Technical officers in the Air Force, Navy and Army Signal Corps needed a good knowledge of science and after enlisting, many were given accelerated courses in Electronics, Radar and R.D.F. (Radar Direction Finding). From about 1941 on, a good deal of my mail was from overseas and Service Schools. Time after time, letters told of how well our U.B.C. students had done in their courses - sometimes heading the class and mostly in the top quarter.

In the summer of 1941, the Services requested the University to put on a course for Radio technicians. They were enlisted men in uniform. The course was administered by the Physics Department and quite a number of extra instruments, such as oscilloscopes, had to be obtained for the labs. There were some 150 men in the course and they were divided into half-a-dozen groups. Stan Morgan and I joined the Physics people and took a group each. We as well as the men put in a full day's work. The course was followed by one or two others but I did not take part in them on account of work at the range.

Early in 1940, the Carrothers and MacLeod music group got Mr. Fowler (one of the school teachers) as conductor. Dorothy got a flute and Don a trumpet, both started taking lessons and later joined the orchestra. In the fall, the group was organized as the University Hill Orchestra and they played at the School Open House and other places. Their numbers grew to eighteen. They met at different houses for practice, followed by refreshments. Many

times in my little den upstairs, I worked to the sound of music or lively chatter below. The orchestra continued to flourish until the spring of 1943 when other interests gradually took over.

Margaret graduated from University Hill School in 1941. She was president of the school Red Cross that year and Editor of the School Annual the year before. On graduation, she received the Best Citizen Shield - a prized award as it was by vote of the student body. In the University, she was a violinist in the Musical Society Orchestra and joined the Gamma Phi Beta Sorority. Mar had First Class standing in those first two years at University.

When Don and Dorothy graduated from University Hill School in '43, they shared the Academic Award and, at the closing ceremonies, received high praise from the Principal, Mr. Affleck. Two or three years before, Don began his business career by taking over a Province newspaper route on the Hill. In 1941, he and Gerry Carrothers joined the Seaforth Cadets and went to camp with them on Vancouver Island the following year. Dressed in kilts, the Cadets looked very smart at church parade and at inspection in the Seaforth Armoury.

Both Mar and Do learned to type and in the summer of '43, Mar worked in the Registrar's Office at the University. Don delivered bills for the B.C. Electric Company in Vancouver. Do and Barbara Simpson formed a team and took on the business of cutting and trimming lawns as gardeners were scarce. Then for over a month, Do worked with Lorraine, (the farmer in the Thomson family), picking and checking the raspberry crop in one of Dr. Harris' experiments.

In the fall of '43, Margaret was a Junior in Arts when Don and Do entered the University and that institution affected the life of 1529 Western Crescent more than ever. Helen saw to it that they had a warm breakfast before starting out for early morning lectures and was always at the door to cheer them on their way. They were fortunate to be living so near the University.

Soon after the war started, the University Hill Red Cross group was formed and met regularly for work all through the war. Not long after, the Faculty Women's Club formed a group and took responsibility for the Red Cross District Unit. Helen acted as contact for the Hill group, collected material from the Unit and returned the finished articles. Knitting and sewing rooms for women students were opened in the Brock Building and Helen was one of the supervisors. She was also in charge of the Red Cross campaign on the Hill for three years and the Hill people always exceeded their quota. In 1940, our girls helped to organize a Junior Red Cross which often met in our garden for knitting during the summers. Mar joined the Red Cross Corps and regularly helped in the Blood Donors Clinic, looking very smart in her uniform.

Our playroom was turned into a workroom for binding stories, cut from magazines, for the Military Hospitals. Over 1700 booklets, complete with covers and titles, were assembled by 1946.

Before the war, the University Hill forum was a sort of service club and channel of communication with government officials. The Japanese raid on Pearl Harbour (Dec. 7, 1941) brought the United States into the war and also the possibility of air raids in the Vancouver area. A.R.P. groups were formed all over the city and the Forum was the center of organization

on the Hill. There were groups for various kinds of work; volunteer firemen, air raid wardens and engineers whose special care was the electrical system and the gas and water mains. We knew the location of every switch and valve in the area and practised finding them in the dark (I was in charge of this group). A poison gas school was opened and gas masks and helmets issued. Lighted windows had to be completely covered and a blackout, when ordered, was strictly enforced by the air raid wardens, assisted by junior wardens, of whom I was one. There were a few alarms but no air raids.

The Hill was also organized in blocks for A.R.P. work. Our basement with a level entrance at one end and well sheltered at the other, was the snook station for our block. It had a wood stove, first aid equipment and a stirrup pump.

At home we continued the custom of having a Department supper party of about ten couples during the Christmas holidays. It was a lively affair with games and other forms of amusement sometimes brought by our guests. We had a similar party each spring for the graduating electrical students at which our young people and a few of their friends helped with the entertainment. Helen still has some thank-you cups and saucers and the Japanese flowering plum tree in the front lawn at 1529 Western Crescent was planted there by the class of 1946. Other classes showed their appreciation too. These student parties had to be given up when the classes got too large after the war.

Helen was president of the Faculty Women's Club for two years. One of the biggest affairs was a Faculty Party arranged in co-operation with the Faculty Association. The dinner was held in the large lounge of Brock Hall, where the tables were beautifully arranged. A short programme followed and then a dance to make the whole affair a most enjoyable one. Helen was chairman for the evening and received many compliments. One professor (not in Applied Science) remarked: "How I know where the MacLeod children got their brains."

In the University circle, the people we got to know best were the Lem Robertsons (mentioned before) and the Paul Bovings. Paul was born and educated in Sweden. He claimed that his grandmother was a MacLeod and that we must be related. He and his wife, Lynette, who came from England, both taught at Macdonald College in Quebec before they were married. Paul was one of the early appointments in the Faculty of Agriculture at U.B.C. When we first knew them, their daughter Ellen was at University and in the Players Club, while Peter was still in High School. At the Bovings', we could always count on lively conversation with a generous mixture of wit and puns. While we couldn't keep up the pace, we found it stimulating and they seemed to enjoy our company too. Paul was exceptionally well-informed and could talk interestingly on a host of subjects. On their telephone list, we were down as "Hec and Hel".

So our friends ranged from Classics to Agriculture. Not so strange perhaps - Virgil was a farmer too - and Paul could tell me the Latin or botanical names of plants, the only one I remember is *Lycopersicon esculentum* - tomato.

Sir Andrew MacPhail's sister, Mrs. Margaret Jenkins, lived in Vancouver. They were cousins of mine and nearly a generation older. She lived with her daughter, Estelle, who was teaching in a city school. When writing

of P.E. Island, I regretted that I had not talked to her more about her life on the Island. But Estelle has a fund of stories about Island people and we always welcome a visit from her, - and on her own account too.

Among our out-of-town visitors in the summers of '42 and '43 were Lionel Stevenson and Matt and Jean Halton. Lionel Stevenson was well known through his books on literary criticism and biography and the Christmas cards he sends us always have a verse or two of his own. The Haltons were U. of A. students in the twenties and Jean was one of the Pi Phi girls Helen knew well. Matt was all over Europe as a war correspondent and, after a holiday with his family who were then staying in Vancouver, was going to Africa. He became well known for his broadcasts from London over the C.B.C.

In the summer of 1941, N.R.C. got a permit from Washington, D.C. for me to visit the D.G. Range at Port Townsend, Wash. I took this permit and a letter of introduction from Navy H.Q. in Vancouver to the people in charge of the Range at Port Townsend. They were very friendly; showed me the Range and equipment and gave me access to all their information on ship protection. I stayed for two or three days. In the evenings, they invited me out for dinner and a car ride through some of the beautiful Olympic country.

About the same time, a site for the Vancouver Range was chosen in English Bay near Ferguson Point which was then a Fort with large guns to guard the harbour. The Range Station was located at Third Beach just north of the Fort, and within its prohibited area. It was several months before the Range was laid and the Range Station built and made ready for the installation of the delicate and rather complicated equipment. By that time, Jim Brown was back from Halifax with good experience in the operation of an open range. His help in connecting up the instruments and operating the Range was invaluable. Two other operators, Dick Montgomery and Frank Hills were also U.B.C. graduates on the staff of N.R.C. They were good men too. A short description of the Range and its operation follows.

There were really two ranges, a shallow range and a deep range. Each consisted of 14 large detector coils, about five feet in diameter, laid in line on the seabed along an east-west magnetic bearing. The shallow range was 2000 feet off Ferguson Point in about 30 feet of water and the coils were spaced 15 feet apart. The deep range was 2000 feet farther out at a depth of 60 feet with the coils spaced 30 feet apart. The ends of the ranges were marked by vertical spars painted white. The coils of each range were numbered from 1 to 14 and connected by cables to switches in the Range Station. In this way the coils of either range could be connected to the correspondingly numbered 14 fluxmeters in the Station.

The Range Station had a constant temperature instrument room, a dark room for developing, printing and photostating, a workshop and an office. The delicate fluxmeters and recording cameras were mounted seven in line on each of two solid concrete tables in the instrument room. Graphs of the ship's magnetic field were drawn on rolls of special graph paper that moved through the recording cameras as the ship sailed across the range. Each graph was drawn by a spot of light reflected from a tiny mirror in the fluxmeter and showed up when the roll of paper was developed. In this way, 14 graphs per crossing were obtained. The ship sailed across the center of the range on a

north-to-south magnetic bearing and back on a south-north bearing. This was generally repeated about four times.

To mark the positions of the bow and stern of the ship on the graphs, a marking and signalling hut was built in the Port in line with the spars marking the ends of the range. An underground cable connected the hut to the Station. It had a telephone line, a line for a signalling lamp and a line with a key that the marker in the hut could press to indicate on the graphs the points where the bow and then the stern of the ship was in line with the spars marking the range. The whole set up was checked and carefully calibrated from time to time.

Naval Headquarters in Vancouver occupied a floor in the Marine Building and the Vancouver Group of N.R.C. had an office there near the D.G. Range Officer's. All arrangements with a ship's Officer were made by the Range Officer and naval ratings under his direction made all required installations and alterations of D.G. equipment on the ship. Half a dozen or more naval ratings, under a Lieutenant, were on duty near the range to act as telephonists, markers and signallers when required. When a ship was being ranged, the Lieutenant was on board as liaison officer for the Station. The Vancouver Group of N.R.C. was in charge of the Range Station and responsible for its maintenance and operation. Generally two men were needed to look after the fluxmeters and recording cameras during ranging.

A good deal of work was involved in preparing the papers for the ship. They included information about the ship and its D.G. gear. Graphs showed the strength of the ship's magnetic field from bow to stern on both a north and a south course and with and without a certain amount of current in the coils. A D.G. chart showed the amount of current required in the coils as the ship approached any harbour in a large part of the world. These papers, when completed, were given to the Range Officer who passed them on to the ship. A photostatic copy was retained in the N.R.C. office at Naval Headquarters.

The Germans kept improving the mechanism for magnetic mines. It became more sensitive and responded to magnetic fields of either polarity. This required a ship's magnetism to be more nearly neutralized and the Allies decided that the problem could be simplified by reducing the permanent magnetism of ships as much as possible. This was called deperming. Under the direction of N.R.C. Ottawa, deperming equipment was installed in a motor vessel by the Navy at Esquimalt. There was enough copper cable to wrap around a ship about a dozen times and a large storage battery to produce short pulses of current in the cable up to a few thousand amperes. The current was gradually reduced as the pulses were reversed until most of the permanent magnetism disappeared. This deperming vessel operated in connection with the Vancouver Range.

Perhaps the most ingenious German mine was the acoustic-magnetic mine. Its mechanism was triggered in two stages. A microphone in the mine picked up the noise from a ship's propeller, but this would not explode the mine until the ship came near enough to act on a sensitive magnetic needle that tripped the first stage. Then the noise tripped the second stage and the mine exploded. This mine had two advantages from the enemy's point of view. In the first place, the noise stage acted as a lock

and the magnetic needle could be made very sensitive without danger of exploding the mine by accident. In the second place, and by far the most important, the ship's propeller noise could not be neutralized.

Little was known about noise from ships and work on it began in Britain, the U.S. and at N.R.C. in Ottawa. George Field was in charge of the acoustic lab, there and hydrophones and microphones were developed for experiments on noise in the Ottawa River.

In August, '42, I spent three weeks in Ottawa working with George Field and learning about the acoustic magnetic mine and counter measures against it. At a dinner or two, Boyle and Rose brought me up to date, more or less, on projects at N.R.C. and on Ottawa news and gossip.

An acoustic range with a hydrophone and a microphone was laid at the site of the shallow range in Vancouver, with amplifier, loud speaker and recorder in the Range Station. The noise level was measured in decibels. Noise makers developed for use on mine sweepers were tested at different speeds and the underwater sounds of these and various kinds of ships soon became familiar to us. Specially made noise makers and propellers were operated in the Ottawa River and at the Vancouver Range and their outputs over a wide range of high frequencies were measured and the results from the two places compared. Such knowledge was considered to be of value in the event that the Germans did produce an ultra-sonic mine and this work was continued in the East after the war. Acoustic records of ships equipped with S.A. gear were also made. The facilities of the electrical laboratories and machine shop at the University were frequently used in all this range work.

Mine sweepers for these new mines were built in Britain and Canada. Long well-insulated cables made to float were trailed behind small ships. The sea-water completed the electric circuit through copper electrodes at the far ends of the cables; and strong pulses of current produced magnetic fields to explode the mines well behind the ships. After the acoustic magnetic mine appeared, various types of noise makers were also trailed; and the mine sweepers proved effective in exploding these mines as well. About two dozen mines were discovered near St. John's harbour, Newfoundland.

Some mine sweepers were built on the West Coast in Canada. In 1944, I went to Seattle with a Navy Commander on one of them to take it over a very shallow D.G. Range near there. The mine sweeper with two or three men aboard, was moored at the dockyard over night and we were put up at the University Club in Seattle. We were impressed by the enormous amount of ship-building going on at the dockyard.

As the war dragged on, the assistants at the Halifax and Vancouver ranges grew restive at not being in uniform although doing essential war work. So the Navy took them on as lieutenants in Halifax and eventually took over complete control of the station there. In the meantime Jim Brown to Halifax where he received his commission too and Dick Montgomery joined the Navy directly, as a lieutenant. On December 1st, 1944, by mutual agreement, the administration of the D.G. range and deperming operations at Vancouver was taken over by the Naval Service, as had already been done in Halifax. During the time the Vancouver Group of N.R.C. was in charge of the Range Station, an average of 24 ships a month were "ranged" or "depermed".

We were frequently in touch with N.R.C. Ottawa and sometimes exchanged news of work and personnel with Halifax. And there was the odd bit of humor; for example, a list with some details of ship arrivals at Halifax once included the "Anne Marie", overall length, fifteen inches, beam six inches, tonnage seven and a half pounds.

I was classed as a Research Physicist by the Research Council and remained on the staff until February, '45. By agreement, the Council paid one-half of my salary to the University from the time the Range was opened and the University gave me one-half of what they received in addition to my regular salary. By careful apportioning of time, I carried on my University work with very few conflicts. In addition to handling the administration and correspondence, I was down at the range or the N.R.C. office at Naval Headquarters three or four times a week and sometimes more. I had a Class B gas ration book and a Navy placard marked "Official Car - Naval Service" on the sun-visor, to turn down when parked. (It gave extra parking privilege.) On sunny days especially, the drive through the Park and along that tree-arched road to Ferguson Point was beautiful, quiet and restful. Third Beach was our private beach then and Siwash Rock our northern outpost.

"Scientists at War" by Wilfrid Eggleston, Oxford University Press, 1950, is mainly an account of the achievements of the National Research Council during the Second World War. The following excerpts from the chapter on the "Sea" refer to N.R.C. work in Vancouver.

(1) "Professor H.J. MacLeod of the University of British Columbia, after spending part of the summer of 1940 at Halifax, took charge of the de-gaussing station in English Bay near Ferguson Point, which was officially opened on March 21, 1942. As on the East Coast, the Vancouver Group was organized by the National Research Council, and later served as part of the Scientific Research Arm of the Royal Canadian Navy in that area. By the time the R.C.N. took over complete responsibility for the de-gaussing and depersing ranges on the West Coast (in December 1944), a total of 732 ships had been "ranged" and 150 "depersed", including many Canadian war and merchant vessels constructed in West Coast shipyards during the period of operation, and nineteen small aircraft carriers built at U.S. West Coast ports in 1943-44. "

(2) "In 1941, the Acting President (Dr. C.J. Mackenzie) of the National Research Council discussed with the Deputy Minister of National Defence (Navy) a closer administrative liaison. This led to the appointment of the National Research Council as the "Scientific Research and Development Establishment" of the Royal Canadian Navy. As the war grew in intensity, groups of scientists were set up under this new dispensation to deal with specific naval problems. There were, for example, the Halifax Group under Drs. Johnstone and Henderson, the Vancouver Group under Dr. MacLeod, the Acoustics Group and a Naval Radar Group. The personnel, resources, and financial means of the National Research Council were thus placed squarely behind the scientific work of the Royal Canadian Navy, and intimate liaison with the Directorate of Scientific Research of the Admiralty and with parallel bodies in the United States was provided."

(3) "It was decided that the United States would concentrate its research on the sub-sonic and sonic end, and Canada on the high-frequency or

ultra-sonic end of the noise spectrum. Specially made noise-makers and propellers were operated in the Ottawa River and at Vancouver, and their outputs over a wide range of high frequencies were measured. It was discovered that ships' noises of 250,000 cycles per second and higher could be measured, and that the energy output was considerable even at that level. A study was made of the absorption of high-frequency sound in sea-water, at frequencies ranging from 300,000 to 2,500,000 cycles per second. The programme being pushed by the Acoustics Laboratory in Canada was given new zest and incentive by telegrams from Britain stressing the urgency and importance of the research."

On the afternoon of June 1st, 1943, Helen and I had just got back from town, when Margaret came rushing out to the car with the Province in her hand and said, "Why didn't you tell us you got the O.B.E.?" I said: "Never heard of it. Probably a mistake." But it was there, my picture, among others, on the front page and under it: "Dr. Hector J. MacLeod, Officer, Order of the British Empire." The citation: "For valuable public service in connection with scientific research" was in the next column. The official notice was on my desk at the University. Like many decorations, it was for service in which others shared whose names were not mentioned. The family was pleased and dozens of letters and phone calls assured us that other people were too.

In this work it was a pleasure to be associated with old friends like Boyle, Field and Ballard and to meet many other interesting people. Among these were the Liaison Officers in Canada and the U.S. for the British Director of Industrial and Scientific Research. When they came to the West Coast, I was asked by the Research Council to meet them, show them the work at the Range, take them to Naval Headquarters and otherwise help to make their stay in Vancouver as pleasant as possible. This is where Helen came in and she made a great success of it.

Professor R.H. Fowler came in December, 1940. He was Lord Rutherford's son-in-law and was knighted before the end of the war. We had some senior science and mathematics people in at tea time to meet him. They were anxious to help in the war and asked him to talk to their colleagues at the University next day. Dr. Klinck was chairman of the meeting. In his talk, Prof. Fowler told them that quick results were all important and the most effective way of getting them was to have groups of scientists working on special projects. He cited the work I was associated with as an example. He told me later that tiny radio tubes able to withstand heavy shock were among the things most urgently needed. I remembered that conversation long after when I first heard about the radar proximity fuse and its destructive effect on enemy planes and ground forces. It was one of the greatest inventions of the war.

The next year Sir Lawrence Bragg was the Liaison Officer and was in Vancouver for four or five days in June. He was booked to speak at a Canadian Club luncheon meeting and I took him there. He met a group of University people one evening at the Robert Clarks' and we had a half day at Naval Headquarters. His father, Sir William Bragg, was chairman of the committee in London that gave me a First World War scholarship.

Sir Lawrence was followed by Professor G.P. Thomson in 1942 and he came to Vancouver in May. His father was Sir. J.J. Thomson, O.M., Master of Trinity College, Cambridge, where I wanted to study once. G.P. Thomson was Scientific Advisor to the Air Ministry and was knighted in 1943. After lunch in the Brock with one or two University physicists one day, I asked him what he would like to do, and he said: "I would like to buy a pair of Indian moccasins for my little girl." In a little shop on Granville St., we found the real thing, beautifully patterned in coloured beads that would delight any child.

That fall Prof. Geoffrey Hill arrived on Sunday, September 6th and we had a tea for him in the afternoon. He was quite impressed with the house and wanted to see all over it. "Why", he said, "one would have to be a millionaire to have floors and woodwork like this in England", and then was surprised to find that there was no maid to bring in the tea. He saw the musical instruments upstairs and said to Mar, "We 'll have some music after these people go", and they did too. He stayed for dinner and the evening and got them all to play with Helen at the piano. He had married an Irish nurse after the First World War, they had a place in Northern Ireland and he picked up some Irish blarney from the old sod. He told some amusing Irish tales about their neighbors there. Next day he phoned Helen to say it was his happiest day in Canada. He was professor of aeronautics in London University.

Prof. Hill turned up again the next April on his way to Los Angeles on some aeroplane mission for the British. He wanted a new overcoat and hat for the warmer weather but didn't have enough ready cash. We suggested he get them on our account at the Bay and square up later. He spotted the clerk as a native of Manchester and as they talked about life in wartime England, arrangements were made to wrap the old coat and cap and mail them to Ottawa without charge. He had a way with people and would take half a day to call on someone in North Vancouver to be able to tell some mother in England that he had talked to her daughter in far off British Columbia. In August, 1944, he stayed at the house with us for a couple of days on his way to Los Angeles again and evidently enjoyed every hour of it, either with friends of ours or with the family alone. All these liaison officers were good types but we put Geoffrey Hill at the top.

In June, 1943, we had Mr. A. Lang-Brown (from the British Admiralty) with his wife and two children for tea. He left a sun ratio meter for me to get records of "brightness" every few hours of the day for 3 or 4 months. I sent them to the Admiralty but they must have gone down with the ship for I never heard of them again.

Then in August, we had Mr. and Mrs. Robert Atkinson of the Royal Observatory for dinner with Dean George Smith from Alberta. Next day we took them to Stanley Park for lunch at the Pavilion and to the Range. He was a D.G. expert with the British Admiralty Delegation in Washington. She was a Bavarian who left Germany in 1929, very attractive and amusing. She told of arriving in New York after two years of English rations and First Aid work in the London blitz. At the end of a delicious steak dinner with all the trimmings, she said, "I'm going to have another cup of real coffee," then heard the waitress say to another, "Some people don't seem to know there's a war on."

Boyle, Ballard and Field all came to the West Coast on Research Council business and of course we had them at the house and took them around too. George Field was out two or three times, once for special tests in deep water close to shore and again when he and I went to the Biological Station, Nanaimo, where John Tully had his base for Asdic experiments from the Navy ship, Echoli. The path of an Asdic beam in water is curved by a change in temperature or salinity and the apparent position of a submarine, for example, may be quite deceiving. The temperature and salinity gradients in the Gulf of Georgia make it a good location for such experiments. Tully's work was part of the Council's anti-submarine project and he came to Vancouver occasionally to talk over his problems with me in his own cheerful and enthusiastic way. My only connection with his work was a minor administrative one. George and I found a cruise on the Echoli on a warm summer day altogether delightful.

Having all these people at the house, with others from the Range as well, gave Helen a good share in this work for the Research Council. She also typed a good deal of my confidential correspondence. They were busy years for both of us, but satisfying too.

In 1944, Dr. Klinck who had been President of the University since 1918, retired. He had guided the University through its move from the Fairfield shacks to Point Grey, through the difficult years of depression and five years of war. There were differences of opinion about certain policies but a growing institution with a registration of over 2500 spoke well for the man at the head. The Faculty Association and the Faculty Women's Club arranged a well attended farewell dinner for Dr. and Mrs. Klinck and I was asked to make the presentation to him. This was my little speech:

"There is a story in the Bible about a man who went to a strange country and served seven years to become a member of the family. There was some slight misunderstanding at the end of the seven years but that is beside the point. I have served seven years in this institution and feel that I really belong to this large family of the University of British Columbia. Under your wise and considerate direction, Mr. President, and with the good fellowship of the Staff, they have been seven happy years. I mention my experience, only as being representative and in any case the one I know best.

"I found here an atmosphere of what I might call justifiable pride in the standards and achievements of this University and confidence in its future. That atmosphere, so essential to the growth of any University, does not come of its own accord. As we all know, it is the result of sound policy, efficient administration and good judgment in the selection of members for the Staff. These things especially all have their home in the President's office.

"We are privileged, too, to live in surroundings of beauty and grandeur. When I go home in the late afternoon, I walk toward the mountains and the sea. then turn into Chancellor Boulevard with its maple and dogwood trees, green for a large part of the year but turning to shades of red and brown and yellow in the fall. If I look at the individual leaves, I find many imperfections, but when the level rays of the setting sun strike those trees with shafts of light, the scene is one glorious symphony of color. In somewhat the same way, Mr. President, when you contemplate the staff in the mellow light of memory, we trust that our imperfections will be forgotten, that our efforts, aims and

ideals may shine with some unity of purpose and perhaps even a radiance which individually we do not possess.

" On behalf of the Faculty Association and the Women's Faculty Club, Mr. President, I have the honour to present to you a token of our esteem, coupled with our sincere good wishes for a long and well earned rest, with time to enjoy to the full, your keen appreciation of all things beautiful in Nature and in the arts."

Leaves have taken on their autumn colours one and twenty times since then and the Klincks still enjoy life in their West Vancouver home.

The University of British Columbia was on the verge of the unprecedented expansion that followed the Second World War. The new President, Dr. N.A.M. MacKenzie, tackled the many problems involved with energy and enthusiasm. These, with his pleasing personality, soon won for him the support and loyalty of the Staff. He had experience in administration as President of the University of New Brunswick, in Public Affairs at Ottawa and as a veteran of the First World War. He was the man for the job.

In 1945, I was made a Fellow of the American Institute of Electrical Engineers through the initiative of Len Stacey (Chairman of the Vancouver Section), Bartholomew, Crosby, Ingledow and Robertson. In his letter to me, the President of the Institute, Dr. Wickenden, wrote:

"The professional requirements for the grade of Fellow in the Institute are high. It is a great pleasure to the officers of the Institute to recognize your achievement of a position of outstanding merit in our profession by admitting you to that grade of membership. It is also gratifying to the Institute to have engineers who merit it become Fellow, thus helping to maintain that group as thoroughly representative of electrical engineers of the highest professional standing."

There was no other Fellow of the Institute in Canada west of Winnipeg then.

I continued to take an active interest in the Engineering Institute of Canada and was Chairman of the Board of Examiners of the Association of Professional Engineers of B.C. (1944-48). All these contacts with professional engineers were of value in teaching and in placing students after graduation.

In the last year of the war, our three young people were in University. In the summers, they worked for most of the time. Among other jobs, Margaret worked for two years in the Registrar's office and Dorothy for one. Don was for three years in Forestry Camps where the younger crews were trained in fire fighting, clearing trails and building camp sites. In this way, they all paid their own University fees and gained some good experience as well.

Margaret graduated in Arts in '45 and made the highest mark in the class in Economics. At Congregation, we saw her admitted by the Chancellor, receive her hood from the President and her diploma from the Registrar. U.B.C. diplomas are tied with two bands and bows of ribbons in the University colors. Mar's had three - a tribute from the girls in the Registrar's Office.

Each graduating class chooses an Honorary President who takes part in the Class Day exercises and says a few words. This is not the occasion for a last minute lecture but rather the privilege of joining with the class

as they review the past and dip into the future. Then, on their behalf, to dedicate the tree they have planted to remind the passer-by that they were here. I was Honorary President of the Class of '44 and again of '45. It was particularly nice to be associated with the class Mar was in. A signet ring reminds me of '44 and a pair of initialed gold cuff links of '45.

In the summer of '45, Helen and I went by train to Lake Louise for a delightful holiday at Temple View Camp beside the Bow river. It was owned and run (as a sideline) by our friends, Ada and Emil Skarin. Both were U. of A. graduates and Emil was Swedish Consul in Edmonton. We had a short visit with Brent and Elsie in High River. In addition to the 1120 acre farm, they had branched out to the Happy Valley Ranch in the Foothills, west of High River. A good deal of open range and water made this 7000 acres a desirable ranch for about 800 head of cattle. It was a beautiful ranch. We arrived in Edmonton on V-J Day and stayed with the Morrisons for a week of Edmonton hospitality.

Earlier in the year we had a letter from Felp and Carman Priestley in the University of Toronto where Felp was teaching and doing research. We knew them as students in Alberta. Felp had been Mar's teacher in Senior English at U.B.C. and the one she liked best. We kept the letter because one paragraph in Felp's tiny script was a compliment for the MacLeod family. Here it is:

"We often think and talk of you people and of your many kindnesses to us in Vancouver. The restful, relaxed friendliness of the MacLeod menage is unique. And I think I could go over every conversation I had with Dr. MacLeod and tell you exactly what I learned from it. I used to urge Sedgewick to try to get a compulsory course established for Arts people, to be given as a series of lectures by Dr. MacLeod, on the history of science in its relation to main trends of thought. Sedgewick seemed enthusiastic, but I suppose hadn't the energy to push it, which is a pity."

Felp was interested in the human side of science and maybe our talks helped him to crystalize ideas in his own keen and penetrating mind. Carman and Felp were interested in art as well as literature and shortly before they left U.B.C., Helen's Art Group had a guest night at the Lawrens^{Harris} home and she took Carman, Felp and me. Mrs. Harris was a member of the Group. We all enjoyed seeing so many of the Lawren Harris paintings and he gave a most interesting talk on Modern Art. Ever since, I have looked upon most modern art with a more kindly eye.

POST WAR YEARS

Margaret went to Queens for the session, 1945-46. Dr. Wallace was the Principal and Mrs. Wallace invited her to stay in a small room in the Principal's house; she had her meals in Ban High Hall. Mar was much taken with the life and spirit of Queens and had a grand time with the Wallaces. She played in the orchestra for the Queens production of Pinaflore. Her courses included Economics and Government and Dr. Corrie (the present Principal) told us later that she had done extremely well in them.

Kay MacLeod stayed with us for part of that year. She had her B.Sc. from Alberta and was a lab technician in the Provincial Lab which was under the

direction of Dr. Dolman of U.B.C. Nona Lambert, a classmate of Dorothy in Agriculture, became one of her special friends and Roger Manning in Forestry, one of Don's.

Those were the years of rapid rise in student registration at U.B.C. For the Winter Session, 1940-41, there had been just over 2500 students registered and 450 in the Summer Session. In the 45-46 Winter Session, there were over 6600 including a special Winter Session, 1946, for ex-service personnel; and over 2300 in the Summer Session, making a grand total of over 9000 students. Over 1000 of these were in Applied Science, mostly in the First and Second years. The Class of '45 (the last year of the war) had nearly 100 Applied Science graduates, including 24 Electrical and 27 Mechanical.

The student veterans represented all ranks from Colonel to Private or the equivalent in the Navy and Air Force. They gave greater maturity to the student body and did extremely well in their academic work. To provide accommodation for such numbers, the University brought to the Campus scores of army huts for class rooms and used others to create Fort Camp for single men and Acadia Camp for married students and Staff.

A year or two after the war, there were about 300 graduate students at U.B.C. and the number was increasing. A small Committee on Graduate Studies, of which I was a member, was elected by ballot of the General Faculty and continued in office until the Faculty of Graduate Studies was established with Henry Angus as the first Dean.

In our Department, we generally had one or two students doing graduate work for the Master of Applied Science degree. Sometimes a student would go elsewhere for study before finishing the course. We got to know Dean Terman and others in the Electrical field at Stanford University and some of our students went there for Ph.D. work. Their good records soon made our graduates welcome at Stanford. Two or three times a member of the Electrical Staff at Stanford came to U.B.C. looking for graduates to take Ph.D. work there. In the five years after the war, about half a dozen of our students, mostly Mechanical, went to the Massachusetts Institute of Technology for graduate work and we had requests for more from the Heads of the Mechanical and the Electrical Departments at M.I.T. But the large majority of our students went directly into industry. Engineering Physics students took my course in Electrical Communication; many of them went to Eastern universities for graduate work.

After the spring Congregation (1946), Helen and I went east for the Canadian Universities Conference held that year in Toronto. It was our first Universities Conference and I was interested in the business and discussions that went on at the meetings. Of more importance perhaps, was the opportunity to meet and talk with people from Universities all across the country.

On that trip, I was on the look-out for someone experienced in Electrical Engineering to join our Staff and some day perhaps, take over the Headship of the Department. One man I had in mind was Frank Roakes, an Alberta graduate (1937) with a Ph.D. from Iowa State University. He had been a Lecturer in Electrical Engineering at Toronto for three years. He was in the Research Department of Ontario Hydro where he had been for another three years. I explained to Frank the situation at U.B.C. and pointed out the possibilities for

advancement in the Department. Helen and I met his wife, Margaret, and liked her - always an important consideration in any appointment. They decided to come to U.B.C. The offer, of course, had the approval of the President and Frank Noakes was appointed Associate Professor of Electrical Engineering at U.B.C. in the summer of 1946. His experience and ability added considerable strength to the Department; it was a fortunate appointment in every way.

After the Conference in Toronto, Helen had two days with the Wallaces at Queens and I joined them there for dinner before we took the train for Montreal. Mar was in Halifax visiting the Alan Camerons after her year at Queens. Then she went with us to P.E. Island for a week or more with Hattie and Heath in French River and with the lively Lawson family in Charlottetown.

It was a chance to show Helen and Mar the old MacLeod family farm, the little school and Geddie Memorial Church with the cemetery beside them where over a hundred MacLeod family names are carved in stone. On a lovely afternoon, we roamed around Green Gables, the Lake of Shining Water and the Haunted Wood where Mar's favorite character, the imaginative Anne, still casts her spell as the evening shadows fall. With the Lawsons, we toured the country, called on old friends and had a day at Belfast (my mother's early home) where the beautiful church tops the hill.

Earlier in the spring, I had promised to attend a Hazen Conference at Maple Bay Inn and regretfully left P.E. Island to go there. During the Conference, a rather violent earthquake shook the Inn and tumbled down chimneys in the neighborhood.

From the Island Helen and Margaret went to Boston and New York to visit Helen's brothers and their families. She had not been East since we left Harvard 25 years before, some of the family were new to her and Mar got to know many of her uncles and aunts and cousins. They were royally entertained with trips to historic places, dinners in the swank New York hotels and Boston clubs, theatres, parties and family reunions. With it all, Helen managed to take in a Pi Phi convention at Swampscott and Mar went to the Gamma Phi convention at Bretton Woods. After nearly two months of a wonderful time, they came home to rest.

In the fall, Margaret decided to register for Social Work at U.B.C. rather than return to Queens. She played in the Musical Society orchestra, Don was in the stage crew and Dorothy was Business Manager of the Society for two years. Don was in Applied Science and Do in Agriculture. Don joined the Phi Gamma Delta fraternity and Do joined Mar's sorority, the Gamma Phi Beta.

The spring Congregation of 1947 was of special significance for the MacLeod family. Margaret obtained her degree of Bachelor of Social Work (B.S.W.) with First Class Standing. Dorothy won "The Wilfred Sadler Memorial Gold Medal" as Head of the Graduating Class for the B.S.A. degree. The year before she won the prize for highest standing in third year Agriculture and the \$125 prize in Horticulture. In her second year, she won the cup for judging dairy cattle at Agassiz and got her "Stall Block" for basketball and ping-pong. In the summer Mar started to work for Provincial Welfare in Vernon and Do for the Experimental Station in Summerland.

There were some sad events that year, too. Paul Boving and Stuart Schofield passed away. I was a pallbearer at Stuart's funeral. Paul's was private but a week later there was a well attended memorial service for him in St. Helen's Anglican Church. I read the lesson, the 121st Psalm, "I will lift up mine eyes unto the hills", which Paul had often done with thoughts of his own. He loved the hills and fields and growing things.

We did not escape all the ills of this world either. I have mentioned some hospital sessions for the family in Edmonton. Helen and I between us added a few repair type operations to the list. One of mine in the summer of 1947 was followed by infection and a high temperature. I had several blood transfusions and must have lived on penicillin for a while as the bill for it was over 100 dollars. I was in hospital for three weeks and Helen had a busy time of it - driving over to see me, the family coming and going, and lots of visitors at the house including the Morrisons for a week.

Early in 1947, the Faculty Club was constructed from three army huts placed in the form of the letter H and well camouflaged. With a good dining room and lounge, it was a boon to the Staff and a convenient place for entertaining guests. There was also a private dining room with a King Arthur table for some twenty people, but somewhat oval instead of round. The President often had a luncheon there for University visitors and I was sometimes included. Once in '48, the guests were a group of Australian and New Zealand professors on a world tour. I sat next to a Mr. Mackay and by way of conversation told him that my grandmother was a Mackay who came from Scotland to F.E. Island as a child. And Mackay said that his grandfather also came from Scotland under the leadership of Dr. Norman MacLeod and that he and his flock sojourned in Cape Breton for several years before building ships and sailing to New Zealand. Maybe we were related. (The book, "Watchmen Against the World" gives a vivid account of the adventures of those hardy Scots.)

In the same year ('47) our Department prepared plans for a relatively large two-story addition to the Electrical Building and submitted them to the President. This addition was built in the spring and summer of '48; it was the first post-war building for Applied Science. It had half a dozen offices, a library and study room, a new electronics lab, a general lab used partly for research and two or three smaller research rooms. The Department had a regular machine shop but the addition included an electrical shop in which Trevor Payne showed his skill by repairing and making equipment for the Staff.

With larger classes, there had to be additions to the Staff as well, and in the course of a few years a number of new appointments were made. L.R. Kersey in Electrical had been appointed before the war. A.D. Moore, with a master's degree from Queens, took time off after a year or so to obtain his Ph.D. from Stanford. (He is now ('65) second in the Electrical Engineering Department). William Wolfe, George Green and G.V. Parkinson were appointed in Mechanical Engineering. George Parkinson was a U.B.C. graduate with a Ph.D. from California Institute of Technology. In addition a number of temporary Instructors and Demonstrators were taken on as required.

After Dorothy graduated, Wendell Forbes became Business Manager of the Musical Society. He was a young cousin who graduated in Commerce in May, '48

and got a position with Time Magazine in Vancouver. He occupied our little suite downstairs, had breakfast at the house and almost became a member of the family.

For the last two weeks in May, we left the house in Wendell's care and went with Don to see the girls. We drove by way of Stevens Pass and Wenatchee to the Okanagan. Mar had been promoted and was in charge of Social Work in the Kelowna District. The Experimental Farm, where Do worked in the lab, was almost a garden of Eden with lovely lawns and flowers and trees of many kinds. The girls gave us a good time and we got to know more of their work and friends and surroundings.

The Universities Conference and Learned Societies meetings were held at U.B.C. in June ('48) and many of our friends and acquaintances from out of town were there. Besides luncheons and dinners at the University, there were garden parties on a grand scale at three of Vancouver's most spacious homes; the Hon. Eric Hambers, the Ronald Grahams and the Frank Mosses. The weather was delightful and one was sure to meet many interesting people at these affairs. One evening, we had a group of friends in for coffee: the Buchanans, Hutchinsons, Eagles and Clarks (from U.B.C.), the Locheeds and Dr. Boyle (from Ottawa), the Burrs (from McGill), Dr. Winn and Dr. Stewart (from Toronto), Per Warren and George Hunter (from Alberta).

Following the Special Congregation for conferring Honourary Degrees, we had a party for Alberta people and a few others. The Albertans or former ones were: the Morgans, Moakes and Stanleys (all at U.B.C.), Miss Misener, Per Warren, F.M. Selter, Morden Long and the Campbells (from U. of A.), Cullwick and Boyle (Ottawa), W.H. Alexander (Berkeley) and the Len Huskins (Wisconsin). Both were very successful parties.

Dr. Brown retired as Principal of Union College (in '48) and the College Chapel congregation held an evening reception for him and his family at the Thomsons'. We had the Brown family for dinner before the reception. The Browns went to live near Oxford in England for a few years. Jim (Rhodes Scholar) and Don Brown did their graduate work at Oxford.

Basil Mathews was then Professor of Church History at Union College. He and his wife came from England. They were people of wide interests whose company we enjoyed. He was well known as the author of several books. They took us as guests to the Institute of International Affairs dinner in Brock Hall at which Lester Pearson, the genial Under Secretary of External Affairs, spoke, and spoke well. We had met him a few days before at the Frank Moss garden party. It didn't occur to us then that he might become Prime Minister of Canada. One afternoon in July ('48) Basil Mathews brought the new Principal of Union College, Dr. W.S. Taylor, and his wife in for tea; we liked them both. The Taylors proved to be just the right people for the College and have won for it considerable support. We have counted Bill and Mary Taylor among our friends for many years.

The whole family, Wendell and Kay foregathered for another happy Christmas; with Christmas eve at the Thomsons as usual and a young people's party at our house to see the New Year in. We like to remember that Christmas especially as none of our family was home for the next one.

Dean Finlayson was President of the Engineering Institute of Canada for the year, 1948-49. He was away from the University for weeks and I was Acting Dean. At the Spring Congregation ('49) I presented the Faculty of Applied

Science candidates to the Chancellor for the degree of Bachelor of Applied Science in the various fields of Engineering and in Nursing. The Class of '49 was a record class including well over 300 Engineering graduates. In the audience were scores of veterans' wives who knew something of what it really cost to get a University degree.

Donald Montgomery MacLeod was a name I was proud to read out and the rest of the family were proud to hear. Don graduated in Mechanical Engineering with high Second Class standing (78%). He had First Class Standing in his first year, won a Great War Scholarship (\$175) and came third in the large class of First Year English. (He had been out in '46-'47 for health reasons). He was accepted for the Test Department Course in the Canadian General Electric plant in Peterboro, Ontario and reported there in September.

Among the fifty-nine Electrical graduates was "Mac" Davison, the Lieutenant who had been in charge of the naval ratings at the D.G. Range in Stanley Park at the end of the war. A few days later, Helen and I were invited to the christening of Davison, Junior, at H.M.C.S. Discovery. The ceremony was followed by a very enjoyable party in the Officers Lounge.

Not long after, Luke Long, a 1946 Electrical graduate, was married and we were invited to the wedding in the Chinese United Church. The reception was held in the Hotel Georgia. We were impressed by the natural courtesy and friendliness of the Chinese people and by the color and variety of the ladies' graceful silk gowns.

That spring Prof. Morrow, Head of Commerce, asked half a dozen of his colleagues, including me, to a dinner for Harold Wilson, President of the British Board of Trade and Barbara Castle, the rather colorful British Labor M.P. They were a great pair with a fund of wit and humor that made a delightful evening. Harold Wilson became British Prime Minister and Barbara Castle was in his Cabinet.

Before an Adaskin Recital at the University, we had a dinner party for the Larry MacKenzies, Geoff Andrews, Blythe Eagles, Tommy Taylors and Lynette and Peter Boving. Afterwards we all went to the recital by the Head of the Music Department, the violinist Harry Adaskin, accompanied by his talented wife at the piano.

By mid-summer, all our young people were making preparations for a change. Margaret came home from the Okanagan after two years with Provincial Welfare there. She and her University friend, Lulla Ireland, who had been teaching in the Interior, decided to go to Europe for a year. They planned to make London their headquarters, maybe work a while, and see something of the British Isles and the Continent. They sailed from Montreal to Glasgow in July and went by train to London.

The Head of the Department of Agriculture Library in Ottawa wanted Dorothy to take a library course in order to qualify for a position requiring a graduate in Agriculture with a knowledge of library work. Do was admitted to the Library School at McGill, where she had a room in McLennan Hall, and was granted leave of absence from the Experimental Farm. With Don in Peterboro, all three were away from home, but we still had Wendell and Kay.

Ben MacLeod was interning in a Victoria hospital that year after graduating in Medicine from McGill. He and Janet and their two year old Lesley came over at Christmas time and Kay came out from town. As usual the turkey was a present from their mother on the High River farm. There were parcels under the tree from Mar and Don and Do and a dozen red roses ("to our wonderful parents") graced the living room. Though we missed our three, it was a good Christmas with young people around and another Department party enlivened the holidays.

In the winter, Dean Chant and I went on University extension work to Trail and surrounding districts. It was mainly talks and discussions with Alumni and High School students. We travelled by the Kettle Valley Railway with its dozens of wooden trestles and high scaffolds on the mountain sides. The Consolidated Mining and Smelting Company put us up in their guest house, on a par with a top-notch club. Quite a few U.B.C. and U. of A. graduates work for the Company.

For the year, 1949-50, I was Honorary President of the Literary and Scientific Executive (L.S.E.). At the Annual Banquet held in March, I was made a member of the Literary and Scientific Honorary Society by the Alma Mater Society of U.B.C. and given a legal looking certificate and the L.S.E. little gold shield.

Dean Finlayson was due to retire that year and the President told me in confidence that I would be the new Dean of Applied Science, but the official announcement did not appear in the papers until the Spring Congregation was over. At Congregation the honorary degree of Doctor of Science was conferred on Dean Finlayson and on Dean Terman of Stanford University. We invited Dean Terman to meet a few members of Faculty and their wives at tea the following day.

The new Engineering Building was officially opened immediately after Congregation. It is a four story structure with good teaching facilities. The Dean's office and a secretary's office are on the fourth floor with grand views toward Howe Sound and the mountains. The spacious Dean's office had wall-to-wall carpet and was nicely furnished. I was thankful to John Finlayson for putting in a couple of comfortable upholstered chairs and a swivel chair for the desk that he never used himself.

One afternoon the summer before, I met Garnet Sedgewick sauntering along in the direction of the new Engineering Building. He was a Harvard man from the Maritimes and Head of the English Department. I said to him: "I suppose you're wondering what will become of a University that raises its temples to Science and not to Arts." Sedgewick said: "Ain't that so". Then, assuming his characteristic pose with head thrown back and hands locked behind, he added in a solemn voice: "What shall it profit a man if he gain the whole world and lose his own soul." Sedgewick was one of the characters about the place and his English 9 course on Shakespeare was looked upon at U.B.C. as almost necessary to a liberal education. Although I was one of "the Sons of Martha", Sedgewick generally sent me a signed copy of any article he published. That was the last time we met.

About the middle of May, (1950) Helen and I went by train to Montreal for Convocation at McGill and the Universities Conference at Kingston afterwards. Do let us and Don drove down from Peterboro. Montreal turned out to be a

meeting place for friends, including the Wallaces from Queens and the Hobbs and Colin Gordons at McGill.

Convocation was held on the Campus below the old Arts Building on a perfect May morning. The highlight of the colorful ceremony for Helen, Don and me was when we heard the following: "Dorothy Montgomery MacLeod, B.S.A., McGill University Library School Prize for the highest average during the year (equal) and saw Dorothy receive her Bachelor of Library Science degree (B.L.S.) and the applause generally reserved for prize winning graduates.

Next morning I went to Kingston for the Universities Conference in the quiet dignity of Queens and the martial surroundings of the Royal Military College. I felt at home in both.

For some time Don and her Library School friend, Vera Mason, had been planning a trip to Europe and had reservations on the *Acandia* sailing from Montreal to Liverpool on June 1st. Helen and Vera's parents saw the two girls sail for England. Then Helen went to visit her brothers in Boston; I joined them a few days later.

At the Massachusetts Institute of Technology (M.I.T.), I met, among others, Prof. Soderberg, a Swedish engineer, Head of the Mechanical Engineering Department. He was enthusiastic about some graduate students he had from U.B.C. Dave Rose, who had been an Engineering Physics student in one of my courses at U.B.C. got his Ph.D. from the Institute that spring.

C.G.B. personnel men, who came to U.B.C. every spring to interview students, had often asked me to visit their plant in Peterboro. So Don reserved a room and rented a car to show us the city and the attractive country around it. He was enjoying his work in the Test Department which was operated mainly by young graduates from across Canada. Dr. Langley, the Chief Engineer, the Works Manager and two or three other executives invited Don and me to lunch at the Kawartha Golf Club. Then they gave Don the afternoon off to show me through the plant where we met many of my former students in various departments.

On our way home, we had a day in Toronto for lunch with Dean Tupper at the University, an evening with the Griersons at the Granite Club and a visit with the Morrisons in Edmonton.

Margaret's letters gave us a vivid account of her life in London and travels in the British Isles and on the Continent. She and Lulla had a few days with the Browns in Oxford and met the Basil Mathews who had returned to England. On a bicycle tour in Northern Ireland, they called at Prof. Geoffrey Hill's home to find he was in Edinburgh. But Mrs. Hill gave them a welcome, with a refreshing swim in the little lake on the place and a supper to match their appetites. It made up for missing some of Prof. Hill's Irish stories.

Through a friend of ours who had gone to University with Alice, the daughter of Chief Flora MacLeod, Mar and Lulla got an invitation to visit Alice and her husband, Archie MacNab. They lived in the lodge on the grounds of Dunvegan Castle, the home of the MacLeod Chiefs on the Isle of Skye. At a luncheon in the Castle, Mar sat next to Chief Flora and the maid who waited on her was Margaret MacLeod. After luncheon, Lolla Flora showed them through the Castle from the Fairy Room to the dungeon and told them its story.

Margaret's uncle, Bob Montgomery, arranged for her to meet Sir Patrick and Lady Ferguson-Davie in their mansion on a 4000 acre estate in Devon. (A son of the first baron had gone to America in 1662 and was an ancestor of the Montgomerys.) The Ferguson-Davies were very friendly and showed Mar generations of family portraits and the old parish church.

At Overseas House in Glasgow, Mar and Lulla met an Australian, Bill Rued, who was a 1942 graduate in Civil Engineering from Sydney University and had been a lieutenant in the Second World War. He was heading for London too and a job in the construction industry. After their trip to Ireland, Bill invited them to meet his sister Ruth and her husband, Dr. Len Atkins, who was studying for his F.R.C.S. During the winter, Mar had a job as a typist in the Treasury Solicitor's Office (overlooking St. James Park) and Lulla with an engineering firm. Before the girls left London in July, Mar and Bill became engaged. Mar, Lulla and Ellen Brown came home on the Laurentis after a marvelous time overseas.

Don's letters too gave us a graphic account of his experiences in the East and of the interesting people he met there. When he finished the course early in July, he was given top rating by Dr. Langley, the Chief Engineer, and Harry Prevey (U. of A.) one of Don's advisers, arranged for him to have some experience with the engineering in Toronto before taking a position in the Supply Department at Head Office. After moving to Toronto in July, Don came home for a holiday. (The summer before (49) we had a good holiday with Don at the Winters' cottage near Netchosin. He invited his friend, Dione Teasdale, for the last three or four days and her cheery disposition made her a welcome guest.) It wasn't long before Don and Dione became engaged. I had known her father for some time as one of the B.C. Electric engineers but, with our common interest in Don and Dione, we got to know the Teasdales better and they became congenial friends as Jack and Mary.

In September, Dorothy and Vera landed in Quebec after their wonderful three and a half months in Europe. Vera's uncle and aunt lived at Whiston Manor on a 500 acre farm near Preston and that was the girls' headquarters. Like Mar and Lulla, they were entertained at Dunvegan Castle and at the Ferguson-Davies and at the Browns in Oxford. With the Cullivicks (formerly U.B.C.) at Dundee, they saw the famous St. Andrews University and Golf course. They had a day with Sir William and Lady Darling at their country home. She was a sister of our friend, Dudley Simpson. Sir William was head of Darling's on Princess Street, Edinburgh and was then a member of Parliament. He had been Lord Provost of Edinburgh during the war. He was entertaining, had written two or three books and gave each of the girls an autographed copy of one. Do, like Mar, was won over completely by the friendly Scots and their enchanting homeland.

Miss Cummings, who kept track of Dorothy at Library School, arranged for her to have a couple of months experience in the Department Library, Ottawa, before reporting back to Summerland on January 2nd, 1951. She got home in time for Christmas.

Wendell had been with us over two years, working for Time Magazine. His reports and suggestions brought him to the attention of executives in New York. He was transferred to the New York office for a few months and then to Chicago as a Business Manager.

When I was appointed Dean of Applied Science, it was generally agreed that our large Department should be divided. Consequently a Department of Mechanical Engineering was authorized with Bill Richmond as Head and a Department of Electrical Engineering with Frank Hockes as Chairman. I remained Head as it was the custom then for the Dean to be head of a department, but I left the running of the Department very much to Frank. Fred Muir was appointed Head of Civil Engineering in Dean Finlayson's place. Frank Forward was Head of Mining and Metallurgy. In addition there were courses leading to the degree of Bachelor of Applied Science in Agriculture, Chemical, Forest and Geological Engineering and in Engineering Physics. The School of Architecture and the School of Nursing were also in the Faculty of Applied Science. (The registration for the session, 1950-51 was 931 in Engineering, 97 in Architecture and 92 in Nursing.) Teachers in several Arts and Science departments are also members of the Faculty of Applied Science and a Faculty meeting makes a fairly large assembly.

As Head of Mechanical Engineering, I was Director of the University Power Plant, which meant representing the University in its relations with the Superintendent and firemen and in other matters concerning the Plant. The Superintendent, Mr. Dale, was a first class man and our discussions were always friendly. But I gladly handed over the job to Bill Richmond.

I have always had the feeling that doctors and lawyers have a better understanding of the history and background of their professions than engineers have of theirs and that such knowledge tends toward more pride in one's profession. With this idea in view, I gave a one-hour-a-week course on the History of Science, Technology and Engineering to the first year Engineering students. The course also gave the new students and their Dean a chance to know something of each other.

Some indication of the nature of the course is given by the titles of two reference books: "Man the Maker" and "The Growth of Scientific Ideas". One purpose of the course was to get students to see and understand just how great minds discovered the so-called secrets of Nature which are the basis of modern engineering. How, for example, Eratosthenes of Alexandria (some 250 years B.C.) determined his fairly accurate estimate of the circumference of the earth. Or how Newton developed his calculus and applied it to arrive at his Laws of Motion and the Law of Gravity. Engineering students know the laws of motion well but not always the steps by which they were discovered. The preparation of the lectures took hours of night work at home which I thoroughly enjoyed even after a busy day at the office. With some 350 students in the First Year Engineers, the class had to be divided into two sections for the lectures. Helen has this note in her diary, September 29th, 1950: "H. gave his first lecture to the First Year Engineers in the new course, History of Science, and he was applauded by the students at the end of it - quite a tribute."

On December 5th, Helen and I went to Dean Buchanan's funeral at Shaughnessy United. The church was banked with flowers and crowded with friends. The President, Robert Clark, Les Robertson and I were among the honorary pallbearers. His tact and sense of humor never failed; the Buchanan Building at the University is his fitting memorial.

Our holly was exceptionally good in 1950 and at Christmas time, we sent a dozen boxes of it by express to friends in less favored regions. Margaret and

Dorothy were home and Lulla and Ellen were with us a while. As we sat around the fire, the four of them entertained us with tales of their adventures in Europe.

Soon after Mar and Lulla left London, Bill Rudd went back to his home in Fybble, a suburb of Sydney, Australia. He was working for the Maritime Board on harbour construction in Sydney. Before the end of the year, Mar and Bill planned to be married on March 26th. Bill arrived in Vancouver about the middle of March and soon won the approval of our family and friends by his personality, conversation and the way he entered into the many activities of that time. There were showers and parties and their many presents were arranged on the ping-pong table in the playroom.

Before going on a trip to England, Dot Thomson told us to use her new Chevrolet, so we let Mar and Bill have our car and they did a lot of the running around. They went to get Sir Alexander Russell and bring him out to the house. (The John MacEachrons had told him to get in touch with us; he was her brother). The four of us showed him around the University and took him to lunch in the Faculty Club. He was a genial Scot with interesting conversation.

Lulla, Ellen and Rita Haney (Mar's co-worker in the Okanagan) were house guests for the wedding. Myrtle Jaffary, with her artistic touch, arranged the flowers in the house and Union College Chapel. (Her husband, Ewart Jaffary, had been one of my sergeants in the 196th Battalion). Mar and Bill were married in the Chapel by Mr. W. J. Taylor in his dignified and charming manner at 8 o'clock in the evening of March 26th, 1951. Mar's wedding dress was white lace over satin and Dorothy as her bridesmaid was in blue. We were proud of them both. Howard Shanks was best man, Mr. Fowler played the wedding march and John and Brian Carrothers were ushers. As the line of cars turned into Western Crescent on their way to our house, Pat Taylor greeted them with a lively air on his bagpipes. At the reception, the house did not seem too crowded with eighty guests and they all agreed it was a lovely wedding.

A little earlier Don and Dione planned to be married on May 12th. The year before they were engaged, Dione had been teaching school on Texada Island and then got a position with Trans Canada Airlines in Toronto. She had a week in Bermuda before coming home early in April. Don's work in Sales at Toronto was going well but he felt that Engineering had more to offer. Also he and Dione preferred to live in Vancouver, so he got a position with the B.C. Electric to start on June 1st.

In addition to many other parties for Dione, Helen had a tea for Margaret and her in the Faculty Club on the 26th of April. The day was fine and the view of the mountains across the water unsurpassed. Some 125 guests greeted Mar and Dione and wished them well. The next day, Don was welcomed home - with a car he had bought in Toronto a few months earlier.

The weather was unusually fine that spring and Bill was much taken with ^{the} beauty of Vancouver, the Island and the fruitlands of the Okanagan. When we took him and Mar to the airport in the evening of May 2nd on their way to Australia, he said they would be back. But we weren't sure and Australia was far away.

The Teasdales had sold their house and were living in an apartment, so arrangements were made to have the reception for Dione and Don's wedding at our home and again the ping pong table was covered with many gifts.

Don and Dione were married in St. Helen's Anglican Church at 3 o'clock in the afternoon of May 12th. Dorothy was one of Dione's four bridesmaids, and all the girls looked lovely in their white gowns. Don's best man was Roger Manning and the ushers were Arnie Teasdale (Di's brother), Gene Johnson and Charlie McPherson. The day was perfect for the reception of nearly 90 guests in the garden surrounded by flowering trees and shrubs. Again Myrtle Jaffary arranged the flowers in the house and her son, Paul, did a fine job of the pictures of both weddings. The pictures and accounts in the newspapers were good too. After their honeymoon, Don and Dione settled down for the summer in the Dekker cottage in Westbrook Camp and Don started work with the B.C. Electric Company.

After the spring Congregation (51), Chief Justice Sherwood Lett gave a dinner in the Vancouver Club in honor of the retiring Chancellor the Hon. Eric Macdonald. Helen and I were patrons at the Nurses' Ball given by the Board of Governors of the Vancouver General Hospital. With the Fred Muirs and the John Finlaysons, we went to the engineers' wives Dinner and Dance where, as Dean, Helen and I were guests at the head table. Gordon Shrum, George Volkoff and I were guests of the Chinese Consul to meet his cousin, a physicist, on a visit from China. We had a good dinner and an interesting evening with delightful hosts.

The year had gone well in the Faculty of Applied Science and there was a good spirit among its members. Fred Muir, Frank Rookes and Bill Richmond were doing well in their new positions. The School of Nursing, established in the early twenties, welcomed the newly-formed Faculty of Medicine, but had no intention of joining it. The School of Architecture which began as the Department of Architecture under Frederic Lasserre in 1945, was made a School in 1951. In addition to architects, the Staff included the artists, Bert Binning and Lionel Thomas and the engineer, Paul Wisniewski. In the early stages, as might be expected, the School had its problems to solve but very quickly attained recognition and an enviable reputation. C.B. Wood, the Registrar, kept the minutes of Faculty meetings and Mildred Kastner, the Dean's Secretary, with a thorough knowledge of Faculty regulations and procedure, handled her office in a highly capable and efficient manner.

The Curriculum committee continued to be particularly active and, in line with leading institutions, was conscious of the need for more mathematics and basic science, as well as breadth of outlook in Engineering education. The curriculum is important but the quality of teaching matters most.

It was June and we needed a holiday, so we took to the road, on the new Hope-Princeton highway to the Okanagan and the Teasdale cottage on Lake Skaha. Dorothy was getting the Experimental Station library in shape and the Gordons supplied fruit and company. Then we had a week with the Morrisons in Victoria, the home of retired Albertans.

Mencell came for a week or more in August. He had made good in Chicago and was going to the Head Office of Time, Life and Fortune in New York. (Later he became Circulation Manager of Life).

The year before, our good neighbors, the Carrothers, sold their house. The boys had graduated from University and were on the road to success. Dr. and Mrs. Robert Kerr and their three young boys were our new neighbors. Dr. Kerr was Head of the Department of Medicine in the Medical Faculty. The Kerrs were good neighbors too.

The dedication of the new War Memorial Gymnasium and unveiling of the Memorial Plaque featured the Full Congregation which was held in the building on October 26, 1951. The impressive ceremony was performed by high-ranking representatives of the Armed Forces and ended with the Last Post. Brigadier Sherwood Lett was installed as Chancellor of the University at that Congregation and he and Mrs. Lett gave a reception for the recipients of honorary degrees the following afternoon. About the same time, International House in Acadia Camp was opened and gave one the impression of the United Nations in miniature.

The yearly handbook of the Engineering Students Society always contained "The Dean's message" and the Slipstick, published annually by all the students of the Faculty had a picture of "The Dean" and a similar message. A copy of one I wrote follows:

"The Slipstick is a record of the year's activities in the Faculty of Applied Science which includes Engineering, the School of Architecture and the School of Nursing. The pages following indicate the variety of these activities and the many interests of University life. To the Editorial Board and the students of the Faculty, I offer congratulations on their achievements.

"The three professions of Architecture, Engineering, and Nursing, though differing in many ways, have a unity of purpose; all are builders of the standards of living and the health of the community. The term "architect" means master builder and implies building as a fine art. Engineering also is an art as well as science and the same is true of Nursing. Members of these professions, then, should have some understanding of human nature, some knowledge of human progress, and some idea of what is good for the community. These things are the fruits of a general education.

"Our University is still young, but it descends in a direct line from ancient seats of learning. Through long tradition, universities are characterized by freedom of thought and inquiry, respect for truth, and recognition of the value of the individual. It is a privilege to have a part in the life and work of the University and to get to know those things for which it stands.

"Canada is a young country, rich in natural resources and in the character of her people. The work of building a great nation still goes on. It offers an invitation and a challenge to those with vision and courage. The University expects its graduates to be among the master builders."

And the following dedication shows that some students at least appreciate the Dean's interest in them and their activities:

"This volume is respectfully dedicated to Dr. H.J. MacLeod, C.B.E., Dean of the Faculty of Applied Science of the University of British Columbia.

"Dr. MacLeod, a native of Prince Edward Island, graduated from McGill University in 1914 and obtained his Ph.D. degree at Harvard University in 1921.

"As an engineer, Dr. MacLeod has made a sterling contribution to his profession and his country, receiving the C.B.E. for his work on ship protection

against magnetic mines for the National Research Council. As a teacher and head of the U.B.C. Department of Mechanical and Electrical Engineering from 1936, his influence over students and staff has resulted in a high degree of co-operation among the departments of Engineering. We are grateful and proud to have Dr. MacLeod as Dean to which position he was appointed in June, 1950."

As Dean of Applied Science, I was also asked to write the Editorial for each September issue of the B.C. Professional Engineer. One of these on "The Profession in Modern Society" appeared later in a publication of the Canadian General Electric Co. under the heading, "The Strength and Safety of the Nation" - a phrase in the article.

During Spring Congregation week (1952) Helen and I represented the University at the Nurses' Graduation Ceremony and Reception at St. Pauls Hospital and again at the Vancouver General. It was a pleasure to attend these lovely ceremonies and receptions. Each year that I was Dean, the University Nurses Club entertained at tea at our home, assisted by Miss Evelyn Mallory, Director of the School of Nursing, Mrs. Mackenzie and others. Students in Nursing at the University were special guests.

A week or more before Congregation, we had a tea on two successive days for members of the Applied Science Faculty and their wives. Lectures were over, the weather was fine and everyone in good cheer.

Early in June, we went to the Universities Conference in Quebec City where we had a room in the Chateau Frontenac. Alan and Jessie Cameron and Alice were there with their car and together we explored the city, the Citadel, the Plains of Abraham and the surrounding country. We were thrilled by the charm of old Quebec and the hospitality of Laval University. It was good to see the Camerons again and meeting many other old friends also added greatly to our enjoyment of the Conference.

From Quebec we went to Boston for a long weekend with Bob and Mary in Cambridge and then with Spen and Eleanor, Jane and Sally at their summer house by the sea near Duxbury. Max and Vera Fife joined us for one of Mary's special dinners and the evening at Bob's. Wendell was at Spen's for a couple of days and Parker and his family for Sunday.

Our next move was to Prince Edward Island by train which crosses the Strait on a ferry. Hattie was holding her own in French River, Bubs and Jock Lawson had three or four grandchildren on vacation at Inkerman and the Island looked as lovely and peaceful as ever. A couple of days with the MacLeods in Alberta rounded out a good trip and we got home the last day of June.

The Vancouver business world was generous with invitations on various occasions. For the opening of the Harmac Mill near Nanaimo, the MacMillan and Bloedel Company chartered a boat to take a party from Vancouver to Nanaimo and back, on a very pleasant excursion, and later I was included at one or two dinners given by H.R. MacMillan for visiting leaders in Forestry.

The Crown Zellerbach's Elk Falls Pulp and Paper plant near Campbell River was officially opened in September (52). The Company chartered the C.P.R. boat Princess Elizabeth to take a fairly large group of Vancouver people over. Earle MacPhee, Head of Commerce, and I from U.B.C. shared a cabin for

the two nights we were aboard. After the opening and a tour of the plant, the boat sailed up Johnstone's Strait in the evening to give us a view of the narrow passage that hides the famous Ripple Rock below its surface. (I learned more about the Rock the following year). Fine weather, good company and excellent food made it a very enjoyable trip.

Another trip that fall was arranged by Mr. Wm. Manson, a Vice President of the C.P.R. in Vancouver, for a look at the new Waneta Hydroelectric Plant of the West Kootenay Power Company, a subsidiary of Consolidated Mining and Smelting Co. The party of eight, with the exception of Chris Webb and myself, were business leaders including Dal Grauer, President of the B.C. Electric and Harold Foley of Powell River. We travelled in luxury in two C.P.R. private cars, complete with an excellent dining room in one and lounge in the other. We were guests of the C.M. & S. for luncheon and the drive by car from Nelson to Trail and then to the Waneta plant on the Kootenay. We had dinner in the evening at the luxurious retreat of Lorne Campbell, the long time president of West Kootenay and a famous character among power men in British Columbia. The three day excursion was a taste of how the other half lives.

Before the end of the year, the National Research Council was requested to recommend a method of dealing with Ripple Rock in Seymour Narrows which was the greatest danger to shipping in the 850 mile long Inland Passage on the West Coast of B.C. Swift tidal currents and turbulent water foiled earlier attempts to drill and blast the two large mounds of the massive rock not far below the surface. The Council set up an Associate Committee to study the problem and make recommendations. I was the only one from B.C. on the Committee which first met in Ottawa in February (1953). Briefly, the Committee first recommended diamond drilling from Maud Island under the channel and into the rock to determine the feasibility of tunnelling. When this was done with satisfactory results, the Committee recommended tunnelling from Maud Island under the 350 foot deep channel and up into the two mounds of rock to be blasted off. The Department of Public Works carried on from there, retained Dr. Victor Dolmage in charge of details and supervision and let the contract for some two and a half million dollars. To complete the story, about three years later on April 5, 1958, a total of two and three-quarters million pounds of explosive, in networks of coyote tunnels in the two mounds of rock, was set off leaving the highest point of rock 45 feet below tide level. The large dark plume of rock and water from the enormous explosion reached a height of about 1000 feet and arched out gracefully in all directions. It was very impressive on television and a matter of wide interest. The danger of Ripple Rock to West Coast shipping was a thing of the past.

As Head of the Department of Electrical Engineering and Dean, I was due to retire at the end of June 1953. It was generally agreed that Frank Noakes was the man to head the Department but the selection of a Dean took some time and a few men outside the University were considered. In the end, the choice fell to Dr. Henry Cunning, Head of Geology and Geological Engineering at U.B.C. I was pleased with both appointments which were made public about the end of the session.

Quite often a member of Staff retiring in good health is appointed as a Special Lecturer for the following year. This method of gradually slowing

down is much better than stopping altogether, when other work is not available. I was appointed a Special Lecturer in Electrical Engineering for the session, 1953-54.

We have pleasant memories of my retirement and a few reminders as well. One is our General Electric Console radio-phonograph, a generous gift from the members of the Faculty of Applied Science. It was rolled in at the close of the last Faculty meeting at which I was chairman. Another is a silver tray with the engraving, "To Dean H.J. MacLeod on his retirement, Presented by the Engineering Undergraduate Society of U.B.C. April 1953." It was presented to me in a very complimentary way by the President of the Society at a special meeting of the E.U.S. And another is a page from "The B.C. Professional Engineer" the Journal of the Association of Professional Engineers of B.C. It was written by Len Stacey, District Manager, Ferranti-Packard Electrical Ltd., and a former president of the Association. At the risk of some repetition I include it here:

EDITORIAL

A TRIBUTE TO DEAN MACLEOD

By L. B. Stacey, P. Eng.

Hector MacLeod will retire this year from the Deanship of the Faculty of Applied Science at U.B.C., and this seems an appropriate time for our Association to acknowledge his outstanding service to our profession.

I have known Dr. MacLeod "off and on" for 37 years. It started in 1916 when he commanded C Coy. 196 W.U.Bn. To be quite honest it was a rather one-sided acquaintance at this stage, for while I admired from the remoteness of the awkward squad "Captain" MacLeod was not aware of my existence.

After the War (the war) "Major" MacLeod (Royal Garrison Artillery) added his A.M. and Ph.D. from Harvard to his B.Sc. and M. Sc. from Mc Gill and then joined the faculty at the University of Alberta and in short order became head of the Department of Electrical Engineering.

In 1921 "Lieut. Col." MacLeod was given command of the U. of A. contingent C. O. T. C.

In 1936 U.B.C. needed a new head for its combined department of Mechanical and Electrical Engineering and succeeded in getting "MacLeod of Alberta" and thereby enhanced not only its own reputation as an educational institution, but gave to the engineering fraternity of this Province a man whose good influence will be felt for years to come.

Came World War Two and in a civilian capacity "Dr." MacLeod was retained by N.R.C. and the Navy. The nature of his work still remains only partially known, at first for reasons of security and later because of his modest disposition. In any event his services were recognized by the Crown and in 1943 he received his Order of the British Empire. Knowing his special qualifications in the field of electronics one can guess pretty closely the nature of his contribution.

In 1950 on the retirement of John Finlayson, Dr. MacLeod was made Dean of the Faculty of Applied Science at U.B.C. That this appointment was made just three years before his retirement age shows very clearly that the University authorities were anxious to recognize his previous service to the University and to use to the full his last three years.

The foregoing skeleton outline is of biographical significance but fails utterly as a measure of the man. In the first place rank or position were never of great significance to Hector MacLeod, they were never sought after but came along rather as incidents in a life of sincere and unselfish application to a job.

In the second place, his most enduring and creative work is not recorded by rank or position, but in the minds and lives of the hundreds of students who have come under his influence.

Few men of his scientific and mathematical scholarship have been able to blend it not only into the engineering approach, but further through the humanities in which he is a prodigious reader, to develop in his students and interest in history and philosophy and thereby to show engineering in its proper perspective.

Throughout his very active teaching career he has always been generous toward extra-curricular activities. In our Association he has twice been Councillor, and for many years was head of the Examining Board, and is now a member of our very important Ethics Committee. At the time he left Alberta to come to U.B.C. he was vice-president of the Alberta Association of Professional Engineers.

In the Voluntary Societies he was progressively secretary, chairman and Councillor for the Edmonton Branch of E.I.C. While at Vancouver he has been chairman of our Section of A.I.E.E. and became a "Fellow" of the same organization, - the first Vancouver man to be so honoured. He has been ^{an} active contributor to the Institute of Radio Engineers through its Vancouver Branch.

While this year marks his retirement from his official position as Dean of the Faculty we can hope that this will afford him still more time to devote to our Association and his many other extramural interests.

We look therefore on this milestone in the biography of Hector MacLeod as one from which the forward view seems just as eventful as the backward one, and I am confident that a great deal more will be written when the full journey is recorded."

This Editorial brought a letter from the Honorary Secretary of the Board of Governors at U.B.C. which noted that the Board had read the Editorial, with a great deal of interest, at their last regular meeting and added: "It was a matter of great satisfaction to all the members of the Board to see this very fine tribute to your work and they have asked me to congratulate you on its appearance."

Retiring members of staff are special guests at the Reception given by the Chancellor, the President and the members of the Board of Governors near the end of the session. In 1953 they were Barnes, Clemens, Larsen, Lloyd, MacLeod, Logan, Sage and Spencer, a relatively large group. Before Congregation the President and Mrs. MacKenzie, with the Chancellor and Mrs. Lett, gave a dinner for the same group and their wives at the Capilano Golf Club.

There were other invitations we appreciated too. After the first day of Congregation, Chancellor and Mrs. Lett held a reception for the recipients of honorary degrees. Congregation the next day, May 20th, was my

last as Dean. In the evening we went with the Gunnings to the Leon Koerners' sumptuous dinner in the Social Suite of the Vancouver Hotel. The new LL.D's and D.Sc.'s were special guests. Yellow roses and green cloths decorated the tables for about 90 guests. On leaving, each lady was given yellow roses and the old world courtesy of the Koerners made it a memorable evening. Helen was a guest of honor at the Women's Faculty Club dinner and at the Nurses Club banquet. Again she and I were invited to the Nurses Graduation Ceremonies and receptions at St. Pauls Hospital and the Vancouver General.

On retirement I was given an Honorary Life Membership in the Faculty Association with all the privileges of the Faculty Club. Also I was appointed Dean Emeritus of Applied Science. Consequently I became a member of Faculty for life and continue to receive notices of meetings and University publications.

I enjoyed University life and my association with Faculty members and students. I found deep satisfaction in teaching, in working with keen young people, listening to their ideas and plans and sharing my views with them on their great adventure into new fields of learning and ways of thought. A University degree is not an escalator; it is rather the bottom rung of the professional ladder. Even so, one of the rewards of teaching is to see former students making their way toward the top. This is especially true in years of retirement when students, of say twenty years before, are nearing their prime. There is a goodly number on my list of those who have arrived at "The Executive Suite"; Presidents, Vice-Presidents, Chief Engineers, General Managers; and the list is growing.

Early in May we welcomed Margaret and Bill back from Australia with Christy, their lovely four month old baby. Bill started work with Thompson, Berwick and Pratt on supervision of construction of the Empire Stadium in Vancouver. In June, Christy was baptized Christine Helen by Dr. Taylor and we had the Taylors and a few other friends for supper afterwards. That evening the Union College Chapel congregation held a reception for the Taylors. As Principal of the College he was too busy to continue as their minister and they showed their appreciation of the Taylors in an appropriate way. It fell to my lot as a member of the Official Board to make the presentation. The new minister, Robert Henderson, like Bill Taylor, was one of the best.

The summer glided by on an even keel. On a lovely afternoon in June the Larry Mac Kenzies' daughter, Susie, was married and the reception was at the President's new house on Marine Drive with its magnificent panoramic view of the sea and the mountains. Three or four university friends of Bill Rudd were among our summer visitors. We liked the free and easy manner of these Australians. In August I removed all the hinges and hardware in the kitchen and breakfast room before painting the ceilings, walls, doors and cupboards. It took a long time but it was a first class job, if I do say it myself. When schools opened, Dione started teaching in Burnaby and she and Don moved further east to a suite on 23rd Ave. near Oak.

For the session, 1953-54, at Dean Gunning's request, I gave the History of Science and Engineering lectures to the Freshmen in Applied Science. For years I had been a member of about a dozen University committees and for some time, Chairman of two, the Committee on Senior Appointments and the Committee on University Research Grants. The President asked me to continue as

chairman of these. In addition I remained chairman of the Military Committee (composed of Officers) that had to do with matters of common interest to all three Military Units on the Campus. In this connection I was invited to military functions such as inspections and dinners and was made an honorary member of the Officers' Mess.

On November 11th, at the request of the President, who was in the East, I took his place at the University's Remembrance Day Ceremony in the spacious foyer of the War Memorial Gymnasium. In this capacity, as one feature of the ceremony, I had the honour of unveiling the Roll of Service in the Second World War and ended my few remarks in this way: "It is the hope of the University that this Roll of Service will serve as a Book of Remembrance to the many students and others who pass this way, and that, in its appropriate setting in this Memorial Gymnasium, it too will be an inspiration to develop and maintain those traditions and institutions which make a people great." At the close of the service, wreaths were laid by Military units and University organizations. Ever since, on the eleventh of every month, a page of the manuscript is turned by a cadet-officer of the Tri-Services on the Campus.

The Book of Remembrance is in a glass case in the foyer of the War Memorial Gymnasium where the high west wall bears the words, inscribed in large letters:

TO THE MEN AND WOMEN
OF OUR UNIVERSITY AND OUR PROVINCE
WHO GAVE THEIR LIVES FOR FREEDOM
THIS BUILDING IS DEDICATED
BY THE STUDENTS AND FRIENDS OF
THE UNIVERSITY OF BRITISH COLUMBIA
1914-1918 1939-1945

On November 11th every year since 1919, a Remembrance Day service has been held at the University attended by the 196th Western Universities Battalion Association. I gave the address in 1937, again in '42 and, in place of the President at his request, in '46.

A few University people, including myself, received Coronation Medals that fall (53). The coronation of Queen Elizabeth, the second, the spring before was a pageant of unrivalled splendor and a time of great rejoicing. The color movies of the coronation were magnificent and brought the ceremony home to millions of people.

We were thankful to have all the family together again for the Christmas season and its festivities. And we were happy to have Bill, Christy and Dione in our family circle. As it turned out, that was the last time the family had Christmas dinner at our home. From then on, the young people took over and carried on the traditions in one or the other of their homes and we always found the spirit of Christmas there. In the spring ('54) Bill and Margaret bought a house with a lovely secluded garden, beautiful trees and a desirable location at 913 Belmont Avenue, North Vancouver.

That spring, the University arranged for the artist, Charles Comfort to paint portraits of the Chancellor, Sherwood Lett; the Dean of Gradu-

ate Studies, Henry Angus; and the Dean of Applied Science, myself. (Charles Comfort had been Official War Artist with the Canadian Army and in 1960 became Director of the National Gallery of Canada.) Later in the year, the University held a "Portrait Tea" in Brock Hall to give University people and friends an opportunity to see the artist's work. My portrait was on the wall of the Applied Science Reading Room for ten years; its present location will be noted later.

Earlier in the year, the family was saddened by the loss of Mary Teasdale, Dione's mother. She had not been well for a long time and became seriously ill when she and Jack were on a trip to California. She died in hospital soon after returning home. Jack stayed with us for a time before going back to his home by Skeha Lake for that was what he wanted to do.

Helen and I were looking forward to a quiet life when circumstances again took a hand in our affairs. Briefly the three members of the B.C. Power Commission (B.C.P.C.) and the Chief Engineer were asked to resign following an inquiry by Mr. Justice Clyde into a disastrous land slide at the Whatchan Hydro Plant that eventually cost about \$1,500,000 to repair. (To avoid confusion in what follows, the term "The Commission" refers to the three members as a group and "The Power Commission" refers to the whole organization.)

We were very much surprised when a representative of the Government offered me the chairmanship of the Commission. I felt that my business experience was not sufficient for that position but agreed to become a member of the Commission. Harold Crosby, District Manager for Westinghouse in Vancouver, was then chosen Chairman. The appointments by Order-in-Council on March 26th were announced by the Premier in the Legislature and by the evening papers in front page headlines. Comments on the appointments were favorable. On March 30th, Harold Crosby and I met the Premier and Cabinet and then the former members of the Commission. They all wished us well in our new venture. The Head Office of the Power Commission was a good-looking four story building with over 40,000 square feet of floor space. The three large well furnished offices for the Commission were panelled in beautiful wood, each of a different kind. The third member resigned to stay with his company in the East, so Harold and I carried on until the middle of June when H.H. (Bert) Griffin, head of the Legal Division of the B.C.P.C. was appointed a member.

Back in 1945, the Government established the Power Commission as a publicly owned utility to improve the availability and supply of power especially in rural areas. The growth of the utility was due mainly to the former Chairman, S.R. Weston with whom I had worked for the Public Utility Commission. When we took over, the B.C.P.C. had four hydro and nineteen diesel plants with a total generating capacity of some 170,000 kilowatts, 52,000 customers and an annual revenue of some \$7,000,000. These figures looked larger then than they do now. The John Hart Hydro Plant at Elk Falls near the mouth of the Campbell River was the pride of the Power Commission. There were more than a dozen of my former students on the staff, including Garth Griffiths, Charlie Nash, Larry Wight and Norm Olsen in administration. Harold and I knew several others, so the place did not seem strange. A.W. Lash had to resign as Chief Engineer but we kept him on the Staff as Engineer in charge of Planning. He was well qualified and had a thorough knowledge of the whole situation. He and G.A. (Van) Vandervoort outlined it very clearly to us.

Electric load demands on Vancouver Island were growing, on account of industrial expansion, much more rapidly than had been predicted and the

power situation was critical. H.G. Acres and Company of Niagara Falls were the Commission's Consulting Engineers. In 1951 they recommended a dam at the outlet of Buttle Lake to raise its level for water storage. The Commission applied to the Water Comptroller for a licence to raise the level of Buttle Lake for storage. Part of the lake is in Strathcona Park and the application raised such a storm of protest that construction had not even started when the old Commission resigned.

The protests were kept alive by two or three people and we were conscious of a rather delicate situation. After talks with Lash and the H.G. Acres people, we passed a Commission Resolution authorizing the Company to proceed immediately with the design of the Ladore Falls plant on the Campbell River. At the same time we gave approval for a complete survey of the Campbell River System so that the final stage of its development could be undertaken as soon as possible. Other matters awaited attention but these were the most urgent.

At General Foster's suggestion, we took over his spacious apartment on the third and top floor of Tweedsmuir Mansions, 900 Park Boulevard, Victoria. (He was a former member of the Commission.) The apartment had a living room with electric fireplace, separate dining room, den, two bedrooms, kitchen and card room, all around a long center hall. We had a beautiful view of Beacon Hill Park just across the Boulevard and the Olympic Mountains beyond. It was in a quiet district and the rent, with private garage, was only \$125 a month.

With some regret we decided to sell our house on Western Crescent. Not long after, Dorothy came home from Summerland for the week-end. She had been appointed Travelling Librarian for the Federal Department of Agriculture, in charge of all regional libraries across Canada. It was a new position with headquarters in the Agricultural Library in Ottawa. Later she wrote: "Many thanks for the weekend, probably the last to be spent in our lovely house - certainly I've never seen a house I liked so well". She had been Secretary-Treasurer of two Athletic Clubs in the Okanagan and had won a number of prizes herself. Before she left, she was presented with a suitably engraved silver tray by the Summerland Research Center and a silver cream and sugar set by the Summerland Athletic Club at a picnic on the beautiful lawns of the Experimental Station.

We sold our house about the middle of July. The family did a good job of clearing out their things and we kept the incinerator going for days. At this inconvenient time, with little warning, I had to go to hospital. Helen and Don took charge of the move to Victoria, made the last round-up in the house at 1529 and turned the key. This brief account of the move gives little indication of all that it involved. Furnished with familiar things the apartment in Victoria became our home.

Before we left 1529, I gave a well preserved leather bound copy of the Laws of Prince Edward Island, 1773-1834, to the U.B.C. Faculty of Law. (At one time it belonged to my uncle, John MacLeod). The gift of this volume was gratefully acknowledged by George Curtis, Dean of Law, and by the Board of Governors. This was in addition to a long list of books left with the Department of Electrical Engineering.

Each member of the Commission had the use of a car and when I went on business trips to Vancouver, Helen and I generally took the car over by

night boat and she stayed with some of the family there. About the first time we went, Helen bought Lynette Boving's house at 4565 West 6th Ave., (Lynette was anxious to sell) and Don and Dione lived in it until they built a house of their own (in '56) on a lot they had bought in West Vancouver. So all the members of our family moved in 1954.

The opening of the Naval Research Laboratory, Esquimalt, in October was attended by scientists from all across Canada, many of whom I knew. Dr. Wallace from Queens was there; he had a bad knee and at his suggestion we sat in the library and talked. Someone brought us tea early and Wallace had some of his Scotch stories to tell along with more serious talk. Then with Dr. Rose of N.R.C. and a few others we were shown over the research ship, the "Labrador" and had a second tea in the Captain's quarters. I drove Wallace back to the Old English Inn where he and Elizabeth (Mrs. Wallace) were staying. It was the last time I saw him and I'm glad we had such a good chat.

One recommendation of the Clyne report was that the B.C.P.C. should have a General Manager. With this in mind, the three of us went east for two weeks in November. We met the top people in the Manitoba Power Commission, the Ontario Hydro, the Quebec Hydro and other organizations. All were generous with their time, invitations and help in various ways.

In Toronto, Dr. W.F. Dobson, who had retired as Director of Research in the Ontario Hydro, took us by car as guests of the Hydro, on a two or three day trip to Niagara Falls and Hamilton. In Niagara Falls, he showed us over the large Sir Adam Beck No. 2 plant in an interesting stage of its construction. There too, we had a good meeting with the principals of H.G. Acres & Co., Messers Andrews, McQueen, Barnett and Ings, about the Ladore plant and the Campbell River survey. In Hamilton, Walter Kinule (U. of A.) took us through the Westinghouse plant where Harold and I had worked years before, and in the evening the Chairman of the Board had dinner for us with several other Company men.

In Montreal we were ^{guests} of the Quebec Hydro Commission at a luncheon; and Jack Tames, District Manager for Westinghouse, took us to dinner in the Mount Stephen Club. At the Head Office of the Montreal Engineering Co., we met half a dozen of my former students, all in senior positions. (Later one of them, Chris Ritchie, became president of the Company.)

As a result of our eastern trip, H. Lee Briggs, General Manager of Winnipeg City Hydro, became the Power Commission General manager and started about the end of February, 1955. He was a great worker and filled the position well until the summer of 1958. He was something of a fanatic for public ownership of electric utilities. This may have been one reason why he never got on friendly terms with B.C. Electric executives as Harold and I had always been.

In the spring (1955) Atomic Energy of Canada Ltd. arranged for a group of engineers and scientists from across Canada to spend a couple of days at Chalk River, listen to lectures, have a guided tour of the plant and reactor and become more or less familiar with developments in atomic energy. I had the privilege of representing the Power Commission and Tom Ingledow the B.C. Electric Co. Thus it came about that Helen and I had a very pleasant 12 day trip to Ottawa, by the C.P.R. "Canadian", in May and early June (with my expenses paid). We went to see the Parliament Buildings and Memorial Chapel, then with Dorothy

to lunch and a session of the House. Do was boarding with the Frasers who were at a conference in Macdonald College at the time, so Helen stayed with her while I was at Chalk River, a restricted area that no one entered without Mounted Police approval. The highly trained staff and their families made up the community of Deep River - a charming spot some eight miles away where we stayed for a couple of nights. It was a most interesting conference and A.E.C. treated us well.

That spring too, the 25,000 kilowatt Puntledge River plant came into operation and relieved to some extent our worry over shortage of power reserve. The Ladore Falls plant had been designed for three 27,000 kilowatt units with two installed as a first stage. It was under construction and would be required as soon as completed.

Before Briggs came, our Planning Engineer, Bill Lash, had the results of the survey of the Campbell River System. This survey favored a high earth-fill dam and power plant at the outlet of Upper Campbell Lake rather than at Buttle Lake. The dam, 175 feet in height, would form a reservoir extending upstream 30 miles, raise the level of Buttle Lake and in effect make the two lakes into one. But Buttle Lake would be raised by only half the amount proposed in 1951. Even so, it was not until August, 1955 that the Order-in-Council was passed and the Minister of Lands and Forests specified the conditions for clearing and allowed the work to proceed. As it turned out, the stringent conditions imposed increased the estimated cost of the project immensely. Among other things the Commission had to build a twelve mile first class access road to Buttle Lake and the water and land clearing around both lakes was carried out to a standard unheard of before. All this greatly improved the Park and its approaches, but the Commission should not have had to pay the whole of the enormous cost, which amounted to about \$8,000,000.

The Strathcona plant, as this development came to be called, was designed for three 33,750 kilowatt turbo-generator units but starting with one. The water from the Strathcona reservoir (800,000 acre-feet) would be used in turn by the Strathcona, Ladore and John Hart plants making a very desirable system. H.G. Acres and Company designed the plant and supervised all phases of its construction. Dawson and Wade, Vancouver and the Macco Corporation of California were the contractors and began work in the fall of 1955. As a result of all the delay, the Commission had to purchase power from the B.C. Electric stand-by plant at Brentwood and from other sources to avoid a "brown-out" that fall.

In the same year (55), the Power Commission laid submarine cables to the larger Gulf Islands, Gabriola, Galiano, North Pender and Mayne and supplied them with electric power. At the request of the Prince George City Council, the Power Commission entered that area and built a new diesel electric station in the city. In the summer, the 4000 kilowatt Spillimacheen Hydro plant in the Columbia Valley was put into operation and took over the loads of diesel plants in Golden and Atholmer. Spillimacheen was officially opened by the Hon. Robert Bonner, supported by the local M.L.A., the Commission, two red-coated Mounted Police and a display of Canadian Ensigns and Union Jacks. We stayed at the Radium Hot Springs Hotel for a day or two to get acquainted with the Columbia Valley Power District people.

Early in 1956, the organization was strengthened by the appointment of Bob McKordie as Chief Engineer and Gordon Tallman as Senior Project Engineer. Both had fine personal qualities and considerable experience with the Ontario Hydro.

By the end of 1955, it was evident from the rapid rise in load demand that additional power would be needed by 1957. A diesel or gas-turbine plant was the only kind that could be built in time and B.K. Sandwell & Co. were retained as consulting engineers to work with our Engineering Division. They recommended a four-unit gas-turbine plant of 75,000 kilowatts capacity. The recommendation was approved and contracts were let in the early summer ('56) for the construction of the Georgia gas-turbine plant at Bare Point near Chemainus.

In the spring of 1956, the B.C. Electric arranged to supply 8000 kilowatts or more to the Powell River Company and surrounding areas. They applied for permission to build a transmission line across the Sechelt peninsula which was one of our Power Districts, supplied by the 2000 kilowatt Clowhom Falls Hydro plant. After a good deal of discussion, it was agreed that the B.C. Electric buy out the Power Commission's interests in Sechelt at cost and that the Commission buy the B.C. Electric 138 kilovolt two-circuit transmission line from Nanaimo to Stratford Crossing south of Duncan. In my opinion, this was of benefit to the people of Sechelt and, in operating costs, to the Power Commission, although some regretted the loss of a power district. The point of interconnection between the two utilities was shifted south from Nanaimo to Stratford Crossing where both had large switching stations.

In the same year, the B.C. Electric Co. interconnected their mainland and Vancouver Island South systems by submarine electric cables. They already had an interconnection and interchange agreements with the Bonnyville Power Administration in Washington. The cables proved to be of great value to the Power Commission also. In the next few years, we bought large quantities of surplus electrical energy from the B.C. Electric Company or they "wheeled" it to us (for a consideration) from Washington.

In the spring of '56, Harold started on a two months trip to Europe, mainly to attend the World Power Conference, and I had the job of Acting Chairman. Sometime before he left, the Prince Rupert city Council had asked us to buy out the Northern B.C. Power Co. Ltd. and supply the city's needs for electric power. While Harold was away, our extended study and negotiations with the Company were completed and after a couple of discussions with the Premier, we made an offer which was accepted subject to ratification by the shareholders. Some of them turned it down and the deal fell through.

About the middle of June, the No. 1 penstock at John Hart collapsed due to a surge caused by a too sudden change of load on one of the generators - another of those expensive breakdowns that happen from time to time in any utility.

A few days later, on behalf of the Commission, I signed the Agreement of Sale for B.C. Power Commission Bonds, to the value of twenty million dollars, in the Premier's office. As always the bonds were guaranteed by the Government and the Minister of Finance (Premier Bennett) acted as the Commission's Agent

in negotiating the sale. His Financial Advisor, John Fisher, in consultation with our Financial Manager, looked after the details. A representative of the New York interests was in the Premier's office which was connected by telephone with their New York office and the agreement was signed in stages in both places. John Fisher was my advisor too and I found it an interesting experience.

In addition to business sessions, much of our time, as members of the Commission, was taken up by appointments with representatives of consultants, contractors and manufacturers, with visitors from other utilities, Power Districts and Municipal Councils and every year from members of the Legislature. The Commission had memberships for the Chairman and the General Manager in the Union Club, Victoria. We took important visitors there for lunch or dinner with perhaps one or two of our senior staff with similar interests - Administration, Engineering or Operations. The conversation was generally interesting and often the source of useful information.

From that review of our first two to three years on the Commission, I turn to family affairs following our move to Victoria in '54. My regular office hours kept me busy by day but there was no longer home work at night and we both enjoyed the free evenings. Victoria was a home for retired University of Alberta people and others. The Sonets, Stansfields, Wilsons and Stricklands were old U. of A. friends and the Andersons, Burrs and Revells were representative of others. We were warmly welcomed by all and Helen especially took part in many of their affairs - the kind that generally occupy the time of retired people.

Victoria was a lovely place to live. Many a pleasant hour we spent amid the quiet beauty of Beacon Hill Park; the walks beneath the ancient trees, the panoramic view from the hilltop, the flowers in profusion, the ducks and swans gliding over the peaceful lakes and the old stone-arch bridge, reflected in the water.

Our two Vancouver families came to see us in the summer. Visitors were frequent and the Morrisons (U. of A.) stayed with us for a pleasant three weeks in the fall. We spent two days at Christmas time with Mar and Bill in their North Vancouver home and the Radds, MacLeods and Teasdales got together again. The end of the year was marked by the arrival of Don and Dione's baby, Michael John, on December 31st. Thus ended an eventful year for all of us.

In January (55) Helen and I received an invitation to attend the opening of the Legislature by His Honour the Lieutenant Governor and with a group of "Honoured Guests" watched the ancient ceremony from reserved seats on the floor of the House. Then with hundreds of others, we went to the Government reception in the Empress Hotel. We even made the papers in a picture of the MacLeods and Griffins, "Power Commission members - at the reception".

In June Dorothy started out on a three months tour of regional libraries in some two dozen centers in Western Canada and was home for over a week in August while working in and around Victoria. These libraries were in Dominion Experimental Stations and laboratories of various kinds and Do's work resulted in more uniform methods of library operation and their greater usefulness to all concerned. She had a fund of information about family friends she had met on her travels.

Later in June, Helen took George (the car) and went to Vancouver for treatments from Dr. Schilder and stayed with Mar and Bill. (I flew over for some weekends). Their twins, Jeffrey and Peggy were born on July 20, 1955. Mar was in good cheer when I went over to welcome the new members of the clan.

"George" didn't behave very well for Helen on the way home from Vancouver so she finally agreed to let him go and we bought a new Vauxhall Six for her. The Fower Commission provided me with a Pontiac car we named the General, because it was the one General Foster had used.

After Christmas in Vancouver, I went to see Dr. Schilder who took a cardiogram and X-rays and said I needed a holiday. So, after a busy month or more in Victoria, Helen and I had three weeks in Palm Springs. Mar and Bill with Christy joined us for the last two. We stayed at the Palm Canyon Lodge owned by the Silvertons, a former Vancouver couple, who had tired of the city "rat race". They treated us well; met us at the train and took us to the fashionable "Desert Air" for dinner. During our stay they drove us to interesting places like date ranches, Palm Canyon, Indio and the Salton Sea. Palm Springs, then a lovely spot in the desert, was quite a change for us and the climate in March delightful.

Before our holiday, the Minister of Education and the Vancouver School Board asked me to be Chairman of a Fact-finding Committee on Vancouver School Construction Costs. The Department of Education and the Vancouver School Board had failed to reach agreement on sharing these costs but both sides agreed to abide by the recommendations of the Committee. Members of the Committee appointed by the Minister were Dr. H.L. Campbell, Deputy Minister, Mr. G.V. Graham, Director of Administration, and Mr. J.H. Wilson, Supervisor of School plans; and by the Board, Dr. R.F. Sharp, Superintendent of Schools, Mr. D.B. Sutherland, Assistant Director of Construction and Mr. D.B. MacKenzie, Assistant Superintendent. The Committee meetings were held in the Board Room of the Fower Commission in April and early May, 1956.

Vancouver was in the middle of a five year program of school construction of the order of \$20,000,000 with the Sir Winston Churchill School for a maximum of 2000 pupils nearing completion. The main question was how high the standards of construction and equipment could be and still have the Provincial Government share the cost on a 50-50 basis. This was not an easy problem to settle but in the end the Committee drew up in considerable detail revised standards of construction and included them in its report to the Minister with a recommendation for their adoption. This report also recommended that projects completed or under construction in Vancouver be considered to conform closely enough to these revised standards to justify costs being shared on a 50-50 basis and ended with this paragraph: "As a result of its study, the Committee is of the unanimous opinion that these standards of school construction for British Columbia are basically sound, reasonable and economical. Further, that as school population continues to increase, large capital expenditures for school buildings are unavoidable." Both the Department and the Board were relieved to have the matter settled and expressed their appreciation in very complimentary terms. The Schools Building Manual, revised in accordance with the recommendations of the Committee, is still (1965) the standard for school construction in B. C.

In the spring (56) the following news item appeared in the papers:

NOTED CIVIL SERVANTS TO BE HONORED BY UBC

"Two of B.C.'s distinguished public servants will be granted honorary degrees by the University of British Columbia at spring congregation ceremonies May 14 and

15th. They are Dean Henry F. Angus, chairman of B.C. Public Utilities Commission and retiring dean of U.B.C. graduate studies, and Dr. H.J. MacLeod, former U.B.C. dean of applied sciences and now a member of the B.C. Power Commission....." Tom Ingledow, Vice-President of the B.C. Electric Company and Colonel W.G. Swan, head of a large firm of Consulting Engineers, also received D. Sc. degrees.

Congregation was held on the warm and sunny afternoons of May 14th and 15th. Marion Manson's parents were out of town and she kindly asked us to stay at their home on University Hill for Congregation. The recipients of honorary degrees were guests of the Chancellor, Sherwood Lett, at a luncheon in the Vancouver Club and also of the Friends of the University at a dinner in the Faculty Club. Mrs. Lett invited Helen to a luncheon at her home. At Congregation on the 15th, Helen sat with Mrs. Lett; Margaret, Bill, Don and Dione were in reserved seats also. Harold Crosby and Bert Griffin came over from Victoria to be there.

The President gave a very complimentary citation in presenting me for an honorary degree. I will omit the review of important events in my life but the first and last paragraphs read as follows:

"And now, Mr. Chancellor, I have the honour to present to you a man whose influence both as a teacher and as a man - an influence exerted during forty years of busy and productive professional life - has been a force for good throughout Western Canada. Of Dr. Hector MacLeod it can truly be said that he possesses the real teacher's inestimable gift of being able to weave his own high standards into the fabric of other men's lives.....

"To a profound knowledge of his chosen scientific and technical fields, he has added the wisdom and scholarship that come from studies, wide and deep, in literature, philosophy, and the problems of the current world. His kindness, his quiet and competent strength, his good taste and personal charm, have endeared him to students and colleagues alike.

"In token, Mr. Chancellor, of the esteem with which he is regarded throughout the University, his professional groups, and the entire community, and in recognition of what he has been able to do with machines and with men, the University requests you today to confer the degree of Doctor of Science, honoris causa, upon a fine engineer, inspiring teacher, and valued colleague, Hector John MacLeod."

At the request of the President, I gave the Congregation address to nearly 500 members of the graduating class and an audience of some 2500 people. The address was well received and along with that of Henry Angus on the previous day was published by the University as "Congregation Series No.9." Helen and I both received congratulations and good wishes from a host of friends at the Congregation tea. A telegram from Dorothy pleased us very much; it read: "Always proud to be a MacLeod but especially so today. Dorothy." A telegram from the Leon Koerners and many letters of congratulations added to our enjoyment of the occasion. In the evening we went as guests to the Congregation Ball where we had a good long chat with Larry MacKenzie. While in Vancouver, we had two or three delightful family dinners, with Marion and Basil at one of them. It was a wonderful week.

After a busy but pleasant summer, our family got together again for Christmas. Helen and I stayed with Mar and Bill and Dorothy with Don and Di in their new house. It was designed by Ron Thom (who later made a name for himself in architecture) and built on their lot at 2190 Palmerston, West Vancouver. It is an attractive house with an interesting garden (once part of an orchard) and a view of English Bay and the city beyond. The Sunday before Christmas, Don and Di had a large house-warming party that was also for Do. We had a lovely Christmas dinner at Mar and Bill's. The twins, Peggy and Jeff, at a year and a half, were interested in all that went on and Don and Dione's Tammy at five months, was the new member of the family. With Christy and Michael, our grandchildren numbered five and still do. After Christmas, Dorothy flew to Honolulu for her holidays and was with us in Victoria for a short time on her way back to Ottawa.

On or about February 3rd ('57), the Clan MacLeod Society of Vancouver Island held an annual dinner in honor of Chief Flora MacLeod of MacLeod's birthday. The Society was formed in 1955 following a dinner at the Oak Bay Beach Hotel for the Chief on her visit to Victoria. Her visits to Australia, New Zealand, the States and Canada led to the formation of Clan MacLeod Societies at various places in all those countries; and the Clan MacLeod magazine, published in Edinburgh, helped to keep Chief Flora's widely scattered "family" in touch with each other. Major Chuck MacLeod was the first President of the Clan Society on Vancouver Island; I became Honorary President early in 1956. A piper, a few kilts, tartan sashes and Highland dances gave the annual dinners a Scottish flavor. There were other gatherings throughout the year, Helen and I took part, entertained the Executive occasionally and got to know the group fairly well.

On one of her visits Dame Flora stayed with us for two or three days and entertained us with tales of the Clan and Dunvegan Castle, and accounts of interesting people she had met on her travels around the world. She and her daughter, Mrs. Joan Wolrige-Gordon, who came later, were charming guests. A picture under "FACES IN THE NEWS" appeared in "Tie-lines" (a Power Commission publication) with the following paragraph below it:

GATHERING 'O THE CLAN!

"AYE, YON WAS A richt braw bricht nicht for the Clan MacLeod Society o' Vancouver-r-r Island recently. Chieftain Dame Flora MacLeod of MacLeod, DBE., came fra' Scotland on a wee visit to her exiled kin. OCH, NOO, an' what a gr-r-rand sicht it was to see them all assembled. And ye ken, ye could almost smell the tang o' the heather-r-r as the bonnie skir-r-rl o' the pipes greeted the distinguished Chieftain.

'TWAS A COMMISSION affair in the bar-r-r-gain! Seen here wi' Dame Flora are (left to right) Ken MacLeod (assistant solicitor), John MacLeod (civil engineer), Commissioner Hector J. MacLeod, OBE., and the braw hielan' laddie who gave a blaw on the pipes - Bill Mossie (draughtsman).

They're a bonnie gr-r-roup, are they no'? OCH AYE!"

We were interested in other organizations in Victoria as well. Helen joined the Women's University Club and was active in its International Affairs study group. She generally went to meetings with Marilla Stansfield and, through her, joined the Uplands Group of the W.A. in First United Church.

(We had transferred our membership there.) She joined the Women's Canadian Club after going to a meeting or two with Agnes Simpson. I kept on with the Institute of Electrical Engineers, the Association of Professional Engineers and the Canadian Club. We were invited to functions at Victoria College and were impressed by the friendly spirit of the place and the scholastic records of the students. The annual garden party at Government House was a pleasant social gathering where we met a lot of friends.

Dudley and Agnes Simpson, whom we knew on University Hill, became two of our best friends in Victoria. He had been an Officer in the Guards (British) in the First World War and they had lived in Canada, the States, China and New Zealand, representing English firms. They were congenial companions and we generally got together about once a week.

The President of the Macco Company of California (one of the joint contractors for the Strathcona development) was John MacLeod. He came from the Isle of Skye and worked on C.N.R. construction in Canada before making good in the States. We had John and Elizabeth (also Scottish) MacLeod for dinner at the Oak Bay Beach Hotel. He was a leader in the Clan MacLeod Society of Los Angeles, so we invited the Island Executive to join us in our apartment after dinner. John and Elizabeth were entertaining guests and we had a good evening of lively talk. (Later they sent us a large case of avocados from Los Angeles.)

Now for some 1957 business entries.

The Commission members were invited to the official opening of the B.C. Electric Head Office building on Burrard Street in March, followed by a banquet in the Hotel Vancouver. On the same trip, I attended the B.C. Research Council meeting and luncheon at the University. The Ladore Falls plant was officially opened in June. On the 25th, Helen and I drove up to Campbell River from Island Hall in Parksville where we had been on holiday. We stayed at Painters Lodge, a very attractive place frequented by sportsmen interested in salmon fishing and by Power Commission people on visits to the area. In the afternoon I showed Helen around the John Hart plant and Elk Falls. By evening the Lodge was full with people from the Commission and the Government, including the Crosbys, the Griffins, the Premier and Mrs. Bennett and the Hon. and Mrs. Chant. Next day, in some half dozen cars, we drove to John Hart and then on to see the Strathcona project where the large dam was finished and the reservoir filling up. There we were joined by a hundred or more invited guests, most of whom came in two or three special buses from the Mansimo boat. Lunch was served in the Construction Camp before the party drove back to Ladore Falls for the official opening of the Ladore Plant by the Premier. Larry MacKenzie and Gordon Shrum from the University were among the guests who really seemed to enjoy the whole affair. The Ladore Plant added a much needed 54,000 kilowatts to the Power Commission's generating capacity on Vancouver Island. We stayed at the Lodge for the night and drove back to Victoria next day after a good holiday.

There were setbacks in the construction of the Strathcona and Ash River Hydro plants and the Georgia gas-turbine plant. The most serious of these was the failure of the steel lining in the 22 ft. diameter conduit through the Strathcona dam. The dam was completed early in June, 1957 and

the intake gates to the conduit were opened to allow water to flow through the conduit and on to the Ladore and John Hart plants. A week or two later, the steel lining tore loose and plugged the conduit. It was months before the lining was replaced by thicker steel plate and the cost in both time and money was heavy.

The usually reliable manufacturer of the four gas-turbine units in the 80,000 kilowatt Georgia Station guaranteed that they would be ready for operation in the summer of 1957. As it turned out, only one was in operation by September and another in 1958, when the station began to serve its purpose as extra capacity, when required, and a stand-by for the hydro-electric system on the Island. In the designing stage, there was some discussion about making the station half diesel and half gas-turbine power; if this had been done, half the station at least would have been ready for operation in the summer of 1957.

Back in 1955, the Commission retained the consulting firm of Crippen, Wright Engineering Ltd. to report on the hydro-electric potential of the Somass River watershed northwest of Alberni. The report recommended the Ash River project as a first stage and cost estimates were prepared. But it was emphasized that there were a number of undetermined conditions that could cause delay and add to the cost. (They did.) Also the Power Commission would have to meet the requirements of the Department of Fisheries. However in view of the forecast increase in load, work was started on the 28,000 kilowatt Ash River project in the spring of '57. Eventually the setbacks at all these plants were overcome. In the meantime, the heavy rains of unusually wet seasons and the purchase of large amounts of electrical energy "wheeled" over B.C. Electric lines helped to prevent thousands of workers in forestry plants from being laid off.

The Whatchan hydro power plant in the Interior had been rebuilt at a cost exceeding \$1,600,000. Loads in a dozen and a half Diesel Power Districts were growing and some required additional units. New plants, each with three, 3000 kilowatt diesel units using natural gas for fuel were built at Dawson Creek, Prince George and Quesnel. Nearly 6000 miles of transmission and distribution lines were increased yearly by 300 miles or so; and occasionally a new Power District Office was built.

All this construction required money and in 1957 alone, the Commission issued Power Commission bonds totalling \$65,000,000 at an average interest rate of approximately 4.6%; all fully guaranteed by the Provincial Government.

While on the subject of money, the Government increased the salaries of the Commission members in the spring of '57. My starting salary was the same as the Dean's when I retired - \$10,000 a year. It was raised to \$11,500. In addition the Power Commission matched a 10% contribution to the Pension Fund. (Small salary now perhaps but University people didn't think so then.)

The main business of the Planning Division was to make five-year forecasts of the Commission's energy requirements, studies of possible power projects which would meet the additional load demands and the probable cost of energy therefrom. Extensive surveys and studies were carried out on the Homathko and Kokish rivers for the Island load and on the Clearwater for the Central Interior. The estimated cost per kilowatt hour of energy from the Homathko was too high to be attractive and the project, even in two stages,

too large and expensive for the Power Commission to handle on its own. The Kokish, with an estimated development of some 50,000 horsepower, was more promising but not sufficient to meet the long range forecasts. As it turned out, these were taken care of in other ways.

One afternoon in October, 1957, I took a report on the Upper Campbell Development over to the Premier's office. He did not seem pressed for time and we had a good talk about the Upper Campbell, the Homathko and Commission finances. There had been some press criticism of the Upper Campbell (Strathcona) dam and he was concerned about its safety; Government undertakings are often the subject of criticism. He was of the opinion (and rightly so) that the Homathko project was too large and costly for the Commission to proceed with and he indicated that cheaper hydro-electric power should become available in the not too distant future. The Commission had a good deal to do with the Premier and he always impressed me by his quick grasp of a situation and his sound judgment.

Each year the Power Commission invited the District Managers (and their wives) to Victoria for a District Managers Conference with the Commission and senior staff members. This gave an opportunity to discuss such matters as management problems and the best ways of handling them, customer relations in the districts, rates, load development and things of that nature. Wives of the senior staff saw to it that the visiting ladies had a good time and a chance to do some shopping. At the end of the two day conference, the Power Commission gave a dinner for those attending and their wives in the Empress Hotel. These conferences were quite a success and the District Managers returned to work with renewed enthusiasm. The B.C. Power Commission Employees Association always asked the Commission members and wives to their Hallowe'en and Christmas parties and other social functions. Helen and I knew Harold and Ellenore Crosby before we joined the Commission; of the other senior people, the ones we got to know best were Bob and Ena McMordie, Gordon and Joyce Tallman and the Lee Briggs. We were on the occasional tea and dinner party basis with them and a few others.

The five-year forecast predicted a Power Commission deficit in 1958-59 and following years. The Power Act gave the Commission authority to increase rates if the revenue did not meet the cost of service. During the winter, I made a study of residential rates and was in favor of one simple block rate for all and no preferential rate for users with small demand. When spring came along, the Commission told the Premier that rising costs of rural extensions called for an upward revision of rates. The Premier agreed with the policy of rural extensions but expressed the view that the Commission should ask the Government for part of the cost of them as provided for in the Power Act, rather than raise rates. The General manager and his colleagues were very much against asking for subsidies which, they said, would mean more Government control of the Power Commission.

They then began to prepare revised rate schedules and supporting documents. These the General Manager recommended, to become effective on October 1st and the Commission approved them. On September 11th, the Commission, as a matter of policy, advised the Premier of this. The Premier requested the Commission to postpone any rate increase and instructed the Comptroller-General to investigate the necessity for it. (The Power Act gave the Government authority to examine

the Commission's financial situation.) The Comptroller-General arranged for our auditors, Messrs. Ismay, Boiston, Dunn & Co., to get the information he requested, which took two or three months.

During the early years of the Power Commission, the Government turned over to it the proceeds from the sale of bonds amounting in all to \$32,000,000. In return the Power Commission paid the Government the annual interest on the bonds (approximately 3%) and the sinking fund installments. On Sept. 22nd, ('58) the Premier proposed that the Power Commission issue debentures for the amount outstanding and thus remove it from the direct debt of the Province. In more detail, the Government would take complete responsibility for the \$32,000,000 in bonds and hold the proposed debentures; then the Power Commission would pay the Government the annual interest on the debentures and deposit with the Government, as Financial Agent, the annual sinking fund payments. The Commission discussed the proposal with the General Manager, the Financial Department and the Power Commission Auditors. The interest rate on the debentures was the main item to be agreed upon and the details were left to the Commission and the Economic Adviser to the Government, John Fisher, to work out. The Commission appointed the General Manager, Lee Briggs, as its representative in the negotiations with John Fisher.

About the middle of October, I had a talk with Lee Briggs about Commission policy following the delay in rate increases, his talks with Fisher getting nowhere and some press criticism. I told him I was concerned about construction costs far exceeding estimates on many projects, and, while they could be justified, the public might not think so. I suggested that we ignore the criticism and keep quiet until the new power plants had a chance to prove their worth. Lee seemed to agree at the time.

Then at the end of the month, the Premier wrote the Chairman to the effect that the Government wished to be fair to the Power Commission as well as to the Treasury and asked him to discuss the refinancing with Dr. Fisher who was the Commission's Financial Adviser as well as Special Adviser to the Premier. Briggs claimed that this meeting took the negotiations out of his hands and on November 12th, without the knowledge of the Commission, issued a press release accusing the Government of interference in the affairs of the Power Commission with special reference to rates and finances.

When Briggs refused to retract the charges, the Commission dismissed him as General Manager on November 14th and the three of us tendered our resignations to the Premier the same day. The Premier publicly expressed his confidence in the Commission and asked us to carry on. Harold Crosby and I agreed to stay until the end of the fiscal year, March 31, 1959. Bert Griffin decided to let his resignation stand. Harold and I appointed Bob McFordie as Acting General Manager, and told the Head Office employees that we could all best serve the Power Commission and its customers by attending to our own business. (Some of them were inclined to support Briggs.)

Briggs issued another press release accusing the B.C. Electric of lack of co-operation and still another accusing the Commission of lack of support on certain projects. The Government's response was to appoint a Royal Commission with Dr. Gordon M. Shrum, as Chairman, and John Dunswair and William Anderson as members, to inquire into the necessity, if any, for a

Power Commission rate increase; the interest that should be paid for cash advances; the experience of the B.C.P.C. in construction work; and other matters deemed proper.

After Briggs was dismissed, he made a speaking tour of the province and repeated his charges against the Government, the B.C. Electric Company, the Commission and various individuals concerned. As one commentator remarked, he took on too many targets for effective fire.

The Royal Commission's public hearings began on December 11th and ended on April 29, 1959 and attracted wide public interest. It was all grist for the newspaper mill and a favorite topic of conversation. The Royal Commission's report and two interim reports were published in full in "British Columbia Government News" September, 1959.

Four column headlines in the papers were not uncommon. The following quote from the Province of December 19, 1958, is a sample. It shows the type of questions asked at the inquiry and gives some of my answers. (Incidentally, at the time I was a Power official, not a "former" one). Quote:

SOME CONTROL URGED
OF ELECTRICAL UTILITIES
FORMER POWER OFFICIAL APPEARS AT INQUIRY
By Paddy Sherman

VICTORIA - B.C. has reached the point where "there should be some overall control or direction of the whole electrical utility business," the Shrum Royal Commission was told here Thursday.

The suggestion came from Dr. H.J. MacLeod, a member of the Power Commission for the last five years.

Dr. MacLeod said that he accepted the job as commissioner on the understanding there would be no political interference with the BCPC.

"I have not run into anything since which I would call political interference," he said.

COMMISSIONER William Anderson asked: "The undertaking you were given has been lived up to in all respects?"

Dr. MacLeod: "Yes. There are different ideas about what constitutes political interference. In my opinion, there has been none."

He was also asked if he agreed with the provincial government's suggestion that a \$26,000,000 BCPC debt should be refinanced.

He replied: "If the government wants negotiable paper for the debt, I haven't any objection to giving it to them, so long as it does not cost us anything."

EARLIER, Chairman Dr. Gordon Shrum had asked if BCPC talks with the provincial finance department were conducted in a "friendly, fair and co-operative manner without duress."

He said discussions have been carried on on that basis. "I never got the impression the government was trying to get very much extra money out of the commission, or anything of that sort," he said.

Dr. Shrum said that Dr. MacLeod resigned recently. He asked if this was caused by frustration or any disillusionment about the position of the commission. DR. MACLEOD said he had decided last spring to retire by next March 31 at the latest, as he had spent five years at the job, more than he expected in the first place.

My comment that "there should be some overall control or direction of the whole electrical utility business" was a result of our experience with the Homathko project. It was far too large and expensive for the Power Commission to handle alone and there was little evidence that the two electrical utilities would work together on such a project. However, with reference to some of Briggs' charges, my statement to the Royal Commission was: "I would say the B.C. Power Commission and the B.C. Electric co-operated reasonably well, and in my opinion, the people of the Province have not suffered due to lack of co-operation". Harold and I were not very enthusiastic about the Homathko project and the estimated cost of power from it plainly tells why.

In February, '59, the Commission and the Government reached agreement on the interest rates for the new debentures, namely, 3% on \$17,783,000 to mature March 31, 1976 (the net balance of the Canadian bonds) and 3 5/8 % on \$9,285,000 to mature March 31, 1977 (the net balance of the U.S. bonds). The agreement was favorable to the Power Commission and the later rise in interest rates made it more so. The agreement was approved by the Royal Commission in its first Interim Report and that item was finished.

During the winter, the Power Commission prepared a new rate schedule with a simple block rate for all residential customers, no preferential rate for small users and an overall 8% rate increase. The second Interim Report of the Royal Commission approved the elimination of the preferential rate but ruled against the 8% increase for these reasons:

- (a) Evidence that the predicted deficit of some \$600,000 for the year ending March 31, 1959, would be replaced by a substantial surplus due in part to a very wet year.
- (b) Their recommendation that the B.C.P.C. take advantage of the provision in the Power Act whereby the Government would pay half the cost of construction and operation of uneconomic rural extensions.
- (c) The Power Commission reserves of over \$4,000,000 were considered sufficient to meet any emergency that might arise.

Thus another item of the inquiry was disposed of.

The experience of the B.C.P.C. in construction work and Briggs' charges remained to be considered. If Briggs had not made his charges, there would not have been an investigation of the Power Commission's operations and the Senior Staff would not have had to spend months in the preparation of volumes of information.

The Royal Commission paid special attention to the Power Commission's experience in the construction of the Georgia, Strathcona and Ash River plants and to costs in comparison with original estimates. In the words of their Report: "In evaluating the information relative to these objectives the Commissioners have taken cognizance of the fact that they have the distinct advantage of examining events in retrospect."

The following are quotes from the Report in reference to the Georgia Plant: "In summary, we find: -

- (a) The decision to build a thermal generating plant on Vancouver Island was sound.
- (b) The decision to install four gas turbines rather than a combination of

possibly one gas turbine and several diesel units was a bold one and, as events have shown, constituted a serious and costly error in judgement.....

(c) The error in choosing the type of unit for the Georgia Thermal Station and the consequent delays in construction added materially to the over-all capital cost of the station:

(d) The Georgia Thermal Station being so far behind schedule also added materially to the cost of the Strathcona project.....

(e) Many persons contributed to the error in judgement, and it has not been possible to fix responsibility upon any specific person or agency. Sandwell & Company, the consultants, the General Manager and the Power Commissioners all contributed."

And in reference to Strathcona, quote:-

In explaining the overexpenditures for the Strathcona Development the Power Commission expressed the following view-point in their submission, Exhibit 90A:-

"The Power Commission must also emphasize the fact that errors of judgment did not contribute to the dimensions of the end costs. The money went into the job and was necessary to produce a working development. The same funds would have been needed, regardless of what estimate figures had been put forward. It is only possible to say that, with more lead time available, estimates would have been based on more comprehensive data and would have more truly predicted the finished costs."

While agreeing in principle with this statement of the Power Commission, we feel that the cost of the project was increased very substantially as a result of

- (a) the decision to substitute a reinforced-concrete conduit with a thin steel liner for a conduit of heavy steel plate;
- (b) the directive requiring the Power Commission to close-cut and grub much of the reservoir area in addition to ordinary clearing practice;
- (c) the directive to build the Buttle Lake road to standards more costly than required by the Power Commission for transporting logs from the area.

It should be pointed out that in spite of the greatly increased cost of the Strathcona Development over original estimates it was sound in principle and it has provided a badly needed increase in the firm power generating capacity of the Island system. The Campbell River system, including the Strathcona Development, the Heber, Salmon, and Quinsam River Diversions and the Ladore and John Hart Developments, is still a very economical source of electric energy. It provides 1,336,000,000 kwh. of energy at a cost of 3.8 mills per kwh. during an average year. End of quote.

In the light of what happened, the Power Commission and the Consulting Engineers knew only too well that the wrong decisions had been made.

With reference to Briggs' charges, the Royal Commission's findings were: Quote:

1. Mr. Briggs served the Power Commission as General Manager well and ably from the time he was employed in March, 1955, until November, 1958.
2. Mr. Briggs' charges of political interference by the Government in the affairs of the Power Commission have been shown by the evidence presented before this Royal Commission to be unfounded.
3. Relations between the Power Commission and the British Columbia Electric Company Limited have not been as unsatisfactory as suggested by Mr. Briggs, and

there is no indication that the people of British Columbia have suffered as a result of any lack of co-operation between the two organizations.

4. Mr. Briggs made charges and implications that the Power Commissioners had not fulfilled some of their functions competently and effectively. These charges and implications have been found to be invalid.

What occurred to motivate the actions and charges of Mr. Briggs from the two months prior to his discharge was not brought out in evidence and is a matter of conjecture.... The Royal Commission disagrees with the conduct of Mr. Briggs and considers he left the British Columbia Power Commission no alternative but to terminate his services."

And from the final paragraphs of the Report, quote:

(1) There must be agreements between the utility companies based on long-term planning and designed to produce a proper sequence of developments so as to reduce over-all costs of power. Such an over-all integration might have made it possible to avoid building costly thermal plants on Vancouver Island and the Lower Mainland. We therefore recommend that an over-all authority should be established in the Province to control and direct the generation, transmission, and distribution of all electric power in British Columbia.

(2) We have found that on the whole the operation of the Power Commission reflects good and efficient management. By extending electric-power service to the less densely settled areas of the Province, the Commission has fulfilled one of its most valuable functions and has earned the gratitude and support of the people of British Columbia.

(3) Acknowledgements: We wish to express our personal appreciation to all the witnesses for the very straightforward and painstaking manner in which they presented their evidence and for their patience and co-operation during cross-examination. The honest and forthright manner in which all witnesses presented evidence made our task much less difficult than it otherwise might have been, and as a consequence the hearings, without exception, were harmonious and free from any recrimination. In particular, we would like to commend the Power Commissioners, the Acting General Manager, and the staff of the Power Commission for the many comprehensive and carefully documented submissions they presented. End of quote.

(Acting on the recommendation of the Royal Commission, noted above, the Government set up the British Columbia Energy Board, took over the B. C. Electric Company in 1961 and amalgamated it with the B.C. Power Commission in 1962 to form the British Columbia Hydro and Power Authority to provide a province-wide integrated system.)

The Report of the Royal Commission was not released until four months after Harold and I retired on March 31, 1959. Our resignations had been recorded in the March 23rd minutes of the Executive Council which recommended:-

That the resignations be accepted with regret and Thanks extended to Mr. T.H. Crosby and Mr. H.J. MacLeod for their years of service to the British Columbia Power Commission;

And that the said Thomas Harold Crosby and Hector John MacLeod each be paid their regular salary up to June 30th, 1959.

DATED this 23rd day of March A.D., 1959.

W.A.C. Bennett, Minister of Finance.

APPROVED this 23rd day of March A.D., 1959.

W.A.C. Bennett

Presiding Member of the Executive Council.

There were five members on the new Commission, namely: Dr. Hugh Keenleyside, chairman, Arthur Lee, Frederick Smith and two Cabinet members, the Hon. Kenneth Kiernan and the Hon. Ray Williston. After announcing their names to the press, the Premier added:- "I want to say how pleased I am with the services of Mr. Crosby and Dr. MacLeod. They have rendered great service to this province." A picture of Dr. Keenleyside, Lee and Smith with Harold and myself appeared in the Victoria Times of April 14th and under it: "Reins of leadership were handed over today to the Chairman and two members of the B.C. Power Commission." (Followed by names).

The same day Harold and I were invited to a luncheon in the Union Club given by the Government in honor of the new Commission members and the day before to a similar luncheon in the Vancouver Hotel where Government speakers referred to the retiring members in complimentary terms.

A number of other very pleasant occasions marked our retirement. Among them a dinner party given by a dozen or so Senior Staff Executives of the Power Commission; and a dinner for the Crosbys and MacLeods given by the H.G. Acres people in a private suite of the Empress Hotel.

In spite of the disturbance caused by Briggs over the last few months, Harold and I could look back with satisfaction on five busy years as members of the Power Commission. The Annual Report for the fiscal year ending March 31, 1959, shows an installed generating capacity of over 385,000 kilowatts with some 67,000 kilowatts of new construction nearing completion, to make a total of over 450,000 kilowatts. Energy generated in the year amounted to approximately 1600 million kilowatt-hours and the total revenue to over 17 million dollars. These figures are some two and a half times greater than those for 1954 when we took office and provide a measure of the tremendous growth of the Power Commission in those five years.

With my retirement, the social life of business ended for us as we knew it would. Invitations to business luncheons, dinners, cocktail parties and Christmas parties came no more. There was no equivalent of *Dean Emeritus* in the business world.

Our many friends, spacious apartment and attractive surroundings made us decide to stay in Victoria at least for a time. Also it was the center for Alberta friends who came to the Coast for a change of climate and to renew "Auld acquaintance".

This is a good place to turn back a couple of years and bring our family affairs into focus again. As often before, we were reminded of the inevitable sleep that follows life on earth. Among others, Heath passed away in the summer of '57. Some forty years before, he and Hattie inherited the old French River farm that had been in the family for over 100 years, when they sold it in 1944 and bought Captain Alfred MacLeod's house by the river in the village. Then early in '58, Ibe Morrison died following one of his heart attacks. He had diabetes too but neither kept him from carrying on in his own cheerful way.

In 1956 Bill took a position with the B.C. Electric Co. or rather with International Power and Engineering Consultants (I.P.E.C.) which had been formed with Tom Ingledow (Vice-President of B.C. Electric) as President.

(Bill had been with H.A. Simons Ltd. Consulting Engineers, specializing in pulp and paper mills.) The new I.P.E.C. building on the corner of Dunsmuir and Seymour was opened in 1957. Don was with I.P.E.C. too and he and Bill had offices close together.

Spen, Eleanor and Sally (then a student at Redcliffe) came to visit us in the summer of '58; Parker and Jan were out the year before. All were charmed with the leisurely old-country atmosphere of Victoria and we were pleased to have some of our visits to Boston returned.

I had cousins on my mother's side living in Victoria. Margaret Morrison had married Frank Briers who was Fire Chief in Victoria when we were there; and Marion had married Bobby Ross of the R.C.M.P. The four of them were at our place one evening in July, '58, and we all went out into the Park about eleven to watch the first Russian satellite "Sputnik" flash at intervals as it sailed across the starry sky and "put a girdle round about the earth in ninety minutes" (ninety in place of Fock's forty). Of such events is history made.

The University of Alberta celebrated its fiftieth anniversary in October and we made it the occasion for a visit to Edmonton. We stayed with Kathleen Morrison for the week and the three of us were invited out most of the time. Stan and Hazel McCusig had planned a dinner for us in the MacDonald Hotel "to meet a few friends". The few friends turned out to be some sixty people; we knew practically all of them and very soon the intervening years seemed to have rolled away. After dinner, Stan welcomed us back to Edmonton and others told of earlier days. L.Y. Cairns was University Chancellor then; he and Helen had been students at the same time and he told some amusing stories of student days and of renting a dinner jacket to take Helen to his first formal dance. That evening was the highlight of our visit to Edmonton and next in order was the colorful Jubilee Congregation in the magnificent new Auditorium on the Campus.

Dorothy made the family circle complete at Christmas time in Vancouver by flying out from Ottawa. She was secretary-treasurer of the Ontario Badminton Association then and on the Canadian Executive. She had excellent colored slides of Canada from coast to coast and, from her holiday trips, of the Barbados and Honolulu. Her library work made her the traveller of the family.

We decided to do some travelling too, and in the spring of '59 (with my responsibilities to the Lower Commission over) we made plans for a trip west and on to England and Scotland with a glimpse of the Continent. There was no problem so we travelled by train and boat with good accommodation all the way.

We left Victoria on June 1st, and had a very pleasant week with the families in Vancouver before going to Ottawa for another good week with Dorothy. She had a new car and together we saw something of the city, the House in session, the National Research Council and several friends; among them, the George Fields, the Charlie Camerons and the Dick McDougalls. Charlie Cameron (one of Helen's Edmonton friends) was a Judge on the Exchequer Court in Ottawa. The McDougalls invited General and Mrs. McDougall to tea with us. I had a good talk with him about his work on the International Joint Commission and negotiations on the Columbia River treaty.

Then we had a month on Prince Edward Island with Hattie at French River and the Lawsons in Charlottetown. With them we went to see family friends of earlier days and places long familiar to me. The "million acre farm" showed little sign of change in half a century. The main roads were paved but seldom had more than a car or two in sight. The leisurely pace of horse and buggy days still pervaded the Island. Its natural beauty, quiet charm and friendly people made for a restful holiday which we thoroughly enjoyed. We found more family records in Hattie's home and in the Record Book of Geddies Memorial Presbyterian Church which we always found unlocked.

On July 26th we sailed from Montreal for Southampton on the S.S. Homeric. We were on our way to attend the Second MacLeod Clan Parliament at Dunvegan Castle on the Isle of Skye. Three years before, in 1956, Chief Flora called what she termed a "Clan Parliament" to celebrate the coming of age of her grandson and heir, John MacLeod. Life Magazine took note of the event with four pages of pictures and a brief account which read in part: (Headline) - "Gay Clan Hails its Chief. The far flung MacLeods gather at Castle on Skye." "To Dunvegan Castle on the storied Scottish island of Skye, for 700 years the stronghold of the far-flung but close-knit Clan MacLeod, MacLeods from five continents journeyed last month to mark the coming of age of the future chief of the clan. In three days of rump and ceremony they hailed spirited John MacLeod Younger of MacLeod and welcomed a non-clansman who dropped in too." On the opposite page was a full page colored picture showing the Queen extending greetings to John as the gathering looked on.

This gathering was such a success that a Second Clan Parliament was planned to meet on August 4-6, 1959. Before we left Victoria, the Clan MacLeod Society of Vancouver Island had a "Bon Voyage" party for us. The Vice-President had been to the First Clan Parliament and was the Society's delegate to the Second. By request, I represented the Clan MacLeod Society of Vancouver.

The Clan Parliament was opened with considerable ceremony on the morning of August 4th. The Chief's daughter, Joan (Mrs. Wolrige-Gordon) was in the chair. The opening prayer was by Brigadier Torquil MacLeod of Edinburgh and the welcome by Chief Flora. Other members of the family present were Alice and her husband, Archie MacNabb (chief of the MacNabs) and Joan's three sons, Captain Robert Wolrige-Gordon, John, who had changed his name to MacLeod on becoming heir and his twin brother, Patrick, who at 23 was the youngest member of the British House of Commons. Major Loudon MacLeod of Raasay represented the MacLeods of Lewis and Raasay (the branch of the family from which my great grandfather came.)

The main business of this Second Clan Parliament was organization and the delegates were divided into committees on Organization, the Clan Magazine and Projects. The three convenors had been appointed a year before and had done their homework well. The Clan Magazine Committee (of which I was a member) met in the Fairy Room where Dr. Samuel Johnson slept in 1775 and Sir Walter Scott in 1814, but the fairies were there long before that. The Committee members had come from Edinburgh, London, New York, Los Angeles, Toronto, Vancouver, Victoria, New Zealand and Australia, and the atmosphere was one of friendliness and kinship.

The delegates had lunch in the Castle on each of the three days and from their gilded frames on the walls of the dining room, the Chiefs of former years looked down and maybe listened with some surprise to the unfamiliar accents of members of the Clan from countries far away.

In accordance with resolutions passed at the last meeting, the Clan MacLeod Societies of the world were federated into the "Associated Clan MacLeod Societies" with the Clan Chief as Grand President and arrangements made for the Association to meet in Parliament at Dunvegan Castle in approximately three years time. Overseas correspondents for the Clan Magazine were appointed and a Clan MacLeod Central Fund was set up for such purposes as the preservation of Dunvegan Castle and financial assistance to deserving students from Skye. Chief Flora closed the Clan Parliament with a moving speech and the Very Rev. Dr. George MacLeod added a few inspiring words before pronouncing the blessing. He was widely known for his part in the restoration of Iona and as an outspoken churchman. He was also Sir George MacLeod by inheritance.

The social side of the gathering was not forgotten. On one of the drives around the Island, Helen and I (with two others) were fortunate to be in a car with Captain Robert Wolrige-Gordon and Major Loudon MacLeod, who entertained us with tales of the places we passed, the Fairy Bridge, the ruins of MacDonald Castle (when they built a new one, the ghosts moved too), Flora MacDonald's grave and high monument (tales of Prince Charlie) and the little community of Uig where Lord Haldane's father, a Baptist minister converted the schoolteacher who was then fired, collected a band of MacLeods and started a new Uig in P.E. Island (Mrs. Lem Robertson's early home). At a stop for tea, Alice MacNabb talked of our Margaret's visit to Dunvegan and her own experiences on a farm on Salt Spring Island. There was a boat trip to the Island of Raasay, a large tea in the Castle and a Ceilidh (pronounced Cayley) in the Village Hall, a sort of concert with music and songs, pipers and dancers, short speeches and stories; there were lilting melodies and Gaelic songs of haunting beauty. John with his violin took part in the programme and Patrick, as chairman, kept things going at a lively pace with humorous stories and witty remarks.

The weather was generally dull, but we were assured that "when the mists suddenly lift like a veil and the sun shines through, the colors of land and sea and sky are the loveliest in the world". We were inclined to believe it when the sun shone through the day we left "the misty Isle of Skye". We took the ferry from Kyle Akin to Mallaig and then the train to Edinburgh. On the ferry, the Alister MacLeods asked us to share their compartment on the train and have lunch with them. He was a manager with the British Railways and President of the Clan MacLeod Society of London. They knew the country well and made the trip very pleasant for us.

For the next three weeks or so we lived with Edinburgh and the Border Country and everywhere we went was the sense of history. In the Royal Mile, with Edinburgh Castle on the Rock at one end and Holyrood Palace at the other, what impressed us most was the superb Scottish National War Memorial erected on a peak of the Castle rock. We were charmed by the classic beauty of Edinburgh and the friendliness of the Scottish people.

A.R. Wilson (with whom I spent a year in the 118 Battery in France) took us to lunch in the Clubhouse of the Royal Burgess Golfing Society of Edinburgh, claimed to be the oldest in Britain. He was Captain of the Royal Burgess then and a senior partner in the firm of Wilson and Sharp, Silversmiths, Princes Street, Edinburgh. (This was the firm that made the much prized silver salver sent to us as a wedding present by the Officers of the 118th Siege Battery, R.G.A.)

Dudley's sister, Lady Darling, invited us for "elevenses" and sent her chauffeur to pick us up. Sir William had had a stroke, could not get around by himself and was difficult to understand. Quite a change from the vigorous and entertaining M.P. Dorothy met when she was over. He invited Sir John Laurie of the Electricity Board to meet us and he very kindly offered to arrange for us to visit some large electrical plants, but we didn't have the time.

We had a couple of wonderful days in the Border Country with Mrs. Margaret White, a cousin of Alex MacLeod Baird, Victoria. After coming to town to invite us out for the week-end, she and her niece, Mrs. Alice Spence, met us at Earlston one hot sunny morning and spent the day showing us the country of Sir Walter Scott. The two of them knew the border history intimately and made it live for us with many a lively tale. On the way to Dryburgh Abbey, we stopped at "Scott's View" looking across the Tweed and the lovely countryside to the Eildon Hills. Sir Walter Scott and Sir Douglas Haig are buried in Dryburgh. We saw the ruins of the 800 year old Abbey under ideal conditions. The great trees were perfectly still and not a sound disturbed the silence of the lovely place. We had lunch in the Dryburgh Abbey Hotel, with a profusion of gorgeous flowers at every turn, then on to Melrose Abbey. Once the most magnificent edifice in Scotland, it has been for centuries a splendid ruin, but there is still something of its ancient grandeur in the warm-colored stonework. Not far away, the local weaver had his shop with a MacLeod tartan on the loom. Helen bought a new make of light weight tartan rug and a buckle bonnet of MacLeod tartan for Dorothy.

Mrs. White and her 23 year old son, Oliver, had a 260 acre farm called "Greenknowe". The tastefully furnished old farmhouse had electric lights and modern conveniences. Among the books in our spacious bedroom, "recommended for light reading" were "Flowers for Mrs. Harris" and "How to be an Alien". Next morning we had a drive through quiet little villages to more historic spots and after lunch, Oliver showed us over the farm where, in large fields, the level in the watertroughs was automatically controlled by valves. As we looked at some fifty head of black Angus cattle fattening for market, Oliver remarked: "The roast beef of Old England". With his collie dog, he gave us a nice demonstration of sheep herding. After tea, Mr. Rutherford (agricultural engineer) and his wife, whom we had met with Mrs. White in the city, drove us with her and her sister through the Lammermuir Hills and back to Edinburgh, some forty miles. They wanted us to see the famous rolling hills covered with purple heather in bloom- and those hills were worth seeing. In Edinburgh they took us around the Queen's Drive in Holyrood Park and from a vantage point we looked down on the old city in the soft rosy light of the setting sun. These Border people made us feel at home with them and we enjoyed their company immensely.

It was Saturday evening and we had two admission tickets to the Inauguration Service of the Edinburgh International Festival in St. Giles Cathedral on Sunday (August 23, 1959 at 3 p.m.) We wrote for tickets from P.E.I. at the suggestion of a Scottish visitor who said it was one of the finest things about the Festival. The letter of regret was signed by a Mr. Graham. When we called on him in Edinburgh, he turned out to be administrative Director of the Festival, thought Dame Flora and the Clan Parliament both good for Scotland, explained that they did not have charge of invitations for the service, then rounded up two from somewhere and when we were leaving, gave us two complimentary Festival Club membership cards as well. The Festival Club was in the Music Hall on George St. Meals were good and reasonable and the large Assembly Hall with sparkling chandeliers reflected in end mirrors, was well furnished with chesterfields and easy chairs. Coffee was served there, usually with music in the background.

We had good seats to the right of the pulpit at the crowded Inauguration service in St. Giles. The Princess Royal and a number of attendants were present. The long colourful procession was headed by the Lord Provost, magistrates and Council of the city of Edinburgh in ermine robes, and followed by members of the University Faculty, the Armed Forces and many other organizations in official dress. The service opened with a thrilling fanfare of trumpets that echoed through the arches of the old Cathedral. The sermon was by a Presbyterian minister from New York (a former Scot), the text from the Song of Solomon: "He brought me to the banquetting house and his banner over me was love", and the general theme, the relationship of Art and Religion. No doubt it would have incurred the wrath of John Knox but we thought it excellent. For us, the whole service was a great experience.

The following evening we witnessed one of the outstanding events of the Edinburgh Festival, the spectacular floodlit Military Tattoo, performed on the Esplanade of the Castle with its massive walls and turrets as a background. The programme opened with a fanfare of trumpets and included massed pipers and drums and military bands from a half-dozen famous Scottish regiments with displays of military drill, gymnastics, Scottish dancing and ceremonial by detachments from the same regiments and the Royal Marines. A detachment of the 7th Regiment of Spahis from French North Africa, mounted on their Barbary stallions, gave an exciting display of cavalry action and horsemanship. We were told, however, that the Musical Ride of the Royal Canadian Mounted Police the year before could not be surpassed. The programme ended with a grand finale and the Last Post by a lone bugler standing in the spotlight on top of the Castle. Altogether a magnificent performance, stirring and unforgettable.

At the Clan Parliament, Miss Mena MacLeod Whigham, who practised law in Edinburgh, invited us to have dinner with her when we were in the city. Her attractive home on Heriot Row, which borders Queen Street private gardens, had a lot of fine old prints and other interesting things. There was a large painting of her uncle, Sir John Lorn MacLeod, one time Lord Provost of Edinburgh, in the living room. With good food and conversation, she and her friend, Miss Ella Johnson, made it a most enjoyable evening for us.

Next morning we took the train to Dundee for the day to see the Cullwicks. Geoffrey was then Dean of Applied Science at Queen's College, part of St. Andrews University. He met us at the train and showed us over the College before taking us home for lunch with him and Maimie and their daughter Evelyn. In the afternoon, they drove us up to the War Memorial on top of Dundee Law which commands a fine view of the city, the Firth of Tay and the beautiful country around them. It was years since we had seen the Cullwicks and there was lots to talk about. They were nicely situated in Dundee.

Our tours of Edinburgh and the surrounding country included an afternoon at the National Gallery and another at the outstanding Royal Scottish Museum where I was intrigued by the push-button operated smooth working engines and other mechanical devices. In Register House, we had hoped to trace the relationship of those three MacLeods, John, George and Kenneth, who, as mentioned before, emigrated from Durness to P.E. Island early in the 19th century. But the records of the parish of Durness dated back to 1764 only and John MacLeod was born in 1761. However Register House, another Adams masterpiece, merits a visit on its own and this is true of many things in Edinburgh not even mentioned here.

We left Edinburgh the morning of August 27th on a three day tour by easy stages to London. The weather was fine, the bus less than half-full, the driver, James Barrie (no relation to Peter Pan) and the courier a helpful guide. We stopped at Windermere in the Lake Country the first night and at Stratford the next. We had time to visit the Shakespeare Memorial Theatre, Mr. Hathaway's cottage, the church and other places that figured in Shakespeare's life. Next day we had a beautiful drive through the Cotswold Hills with stops at Oxford and Windsor. In London we had a room in the Kingsley Hotel on Bloomsbury Way near Russell Square, the British Museum and London University and only a short walk to Piccadilly Circus.

The next day, Sunday, we took the Underground (which isn't all underground) to Ealing Common, some seven miles west and were met by Dulce Smith and Josefina with their car. After supper at their house, Josefina drove us along the Embankment and back to our hotel while Dulce introduced us to places of interest on the way that we should visit later. On Monday at B.C. House, we ran into Gordon Shrum who introduced us to the Staff and showed us clippings about the Royal Commission Report.

We met several people we knew during our stay in London, among them Joan Halton, who had us for dinner in her nice home in North London. Her husband, Matt Halton, a well known London correspondent of the C.B.C. had died three years before. Helen Edwards was there for dinner too and the talk was about old friends at the University of Alberta, life in England and the London they both knew so well.

After a week in London, we made arrangements to spend ten days on the continent. But before leaving, we reserved a room with meals at Suncourt Hotel, 59 Lexham Gardens and moved in on our return.

On a warm and sunny September morn, we crossed a quiet channel from the White Cliffs of Dover to Calais and then by fast train through Boulogne, Abbeville and Amiens (well remembered places) to Paris. We had a comfortable room with bath in a little hotel a block or two from Pigalle Metro station. We had only four or five days amid the grandeur of the beautiful city, but we left with vivid memories of the Champs Elysees, the Seine with its bridges and

its Left Bank, Notre Dame, the Opera, the Sorbonne, the Tuileries and the Louvre, that enormous palace of priceless treasures like the Winged Victory, the Venus de Milo and the Mona Lisa. We saw the splendor of Versailles, the view from Montmartre and, at night, the brilliant Champs Elysees with the floodlit fountains and Arc de Triumph. And everywhere, of course, giving life and character to their city were the French people themselves.

We left Paris in morning sunshine for our seven hour train trip to Amsterdam. We went by way of St. Quentin, Mons, Hal, Brussels and Rotterdam and crossed the battlefields of two World Wars. Man and Nature had left little trace of the years of awful destruction but I remembered what some of the towns and the countryside looked like forty years before. There were good harvests in this rich farming country of France, Belgium and Holland. Some five million Holstein cattle grazed beside the still waters in Holland alone.

In Amsterdam we stayed at the Suisse Hotel on Kalverstraat, a 500 year old shopping center. It is a fairly narrow street; people used the whole of it as a sidewalk and cars took another route which made it pleasant for shoppers. After a good dinner in the hotel, we listened to the B.B.C. news and a London Symphony Orchestra and read the London Times for that day and also the International Edition of the New York Times printed in English in Amsterdam.

A feature of the city is the system of canals, more or less in the form of three concentric circles with connecting links. They were built in the seventeenth century "for defence, traffic and beauty". "That was when we were rich", said the guide. There were 1500 houseboats moored along the banks of the canals, all neat and clean. The Dutch are very proud of their Museum of 17th century paintings; Rembrandt's "Nightwatch" is perhaps the most outstanding. Amsterdam was the leading center of the diamond cutting and polishing industry and we enjoyed our tour through the factory and the story of that very specialized business. Outside were hundreds of bicycles in place of motor cars. The city is the home of a million people and half a million bicycles. We liked its slower pace, its quieter streets and its cheerful, wholesome people.

Back in London, we found the Sun Court Hotel a quiet comfortable place. It occupied three old adjoining houses with large rooms, high ceilings and a nice garden at the back. Our table in the dining room was by the glass doors which opened on the garden and we often had them open. Kensington Gardens, the London Museum and State Apartments in Kensington Palace were all within short walking distance, as were the Science Museum, the Natural History Museum and the Victoria and Albert Museum, all fascinating places in which to spend the odd hour or two. We could get to the City by underground from Earls Court in about fifteen minutes.

It was election year in Britain and on our first evening at Sun-court we listened to a good TV program by the Prime Minister (MacMillan), the Chancellor, Ian MacLeod, Minister of Labour and Lord Hailsham, Minister of Education. This was followed by the B.B.C. Symphony Orchestra under the direction of Sir Malcolm Sargent in the last of a series of Promenade Concerts for young people in Albert Hall. The concert opened with "Land of Hope and Glory" and ended with "The New Jerusalem", the audience enthusiastically joining in the choruses. The music and Sir Malcolm's witty remarks drew tremendous applause from over 6000 young people.

We took guided tours to such places as the Houses of Parliament, Westminster Abbey, St. Paul's Cathedral, Hyde Park, the Royal Palaces and the Tower. Then on our own, we visited them again (and other places) at a more leisurely pace. In the next four weeks we became familiar with London's winding streets, great buildings, parks and gardens, river and docks and long history. As we did so, our appreciation of its greatness grew. Somewhere we read: "Stay long enough in London to feel the presence of centuries and be able to slip from one to the other". We felt the presence of centuries almost everywhere we went. Something of the part they played in the evolution of British institutions pervaded such places as the Houses of Parliament, Westminster Hall, the Royal Courts of Justice and Westminster Abbey, itself the work of five centuries and a history of Britain in stone and marble. "The Tomb of the Unknown Warrior" is near the west door in the nave and between it and the choir screen is the tomb of David Livingstone, the African missionary and explorer. As shown in our "Family Records", David Livingstone's father and my grandfather, John Morrison, were first cousins, and he and David Livingstone were born in the same year, 1813. We copied the inscription on his tomb for the Family Records. There is a statue of David Livingstone in Princes Street Gardens, Edinburgh, with the compliment of only one word engraved on its base: "Livingstone". We went back to the Abbey once or twice and were there for a service in commemoration of the Founder nine hundred years before.

Dozens of places of lesser fame in the old city attracted our attention as well as places of wide interest farther afield. A boat trip took us down the Thames to Greenwich, the home of the Royal Observatory which marks the zero meridian, the Royal Naval College and the National Maritime Museum with its story of "Ye Mariners of England". In Canterbury Cathedral we saw a masterpiece in stone "with the noblest Gothic tower in existence", and in Cambridge we were shown the stately halls and chapels of the colleges, including Kings College Chapel, the glory of Cambridge. Its lace-like stone work rivals that of King Henry VII's Chapel at Westminster and St. Georges Chapel at Windsor.

The only rival of Cambridge University is Oxford, which we saw again under the expert guidance of Mrs. Basil Mathews. We hadn't seen Mrs. Mathews since she and Professor Mathews went to live near Oxford ten years before and it was good to see her again. (Basil Mathews died in England early in 1951).

We had a good day at Windsor among the royal treasures of St. Georges Chapel and the State Apartments; and another day at Hampton Court on a bank of the Thames, the haunts of Cardinal Wolsey, Henry the Eighth and some of his kin. The magnificent Chapel Royal and Great Hall are part of Henry's Palace; the double State Apartments were designed for William and Mary by Sir Christopher Wren. These apartments look out on what has been called "the National Gallery of English Gardens".

On a warm sunny morning (October 14th) one of London's friendly taxi drivers drove us past the ancient landmarks between South Kensington and Westminster Bridge to Waterloo Station for the boat train to Southampton. It was a good summer to be in Europe, that summer of 1959; the best in 200

years, they told us in Amsterdam; the more conservative British said the best in 50 years. With our camera we got a record of the trip in coloured slides.

Canada looked good to us as our ship, the Homeric, sailed up the broad St. Lawrence river to Montreal. Dorothy gave us a nice surprise by meeting us at the dock; we had dinner together and a good chat in the Queen Elizabeth Hotel. In the evening Dorothy went back to Ottawa and Helen and I took the night train to New York to visit the Montgomerys there and Wendell. Helen's brother, George, reserved a luxurious suite in the Barclay Hotel for us as his guests. His son, George, made a fourth for dinner in the hotel and the evening in "our" attractive sitting room.

The following evening Mary Lanigan (Bob and Mary's daughter) gathered some of the family for a party, her uncle George and George, Jr., Sally (Spen and Eleanor's daughter) and her husband, Marc Rieffel (both graduate students at Columbia), Wendell Forbes and us. George and Mary especially were good talkers with George to the far right in politics and Mary a left-leaning Democrat. The conversation was always lively and stimulating with a good deal of attention paid to world affairs. George's comments on the Montgomery family and characteristics (partly for Marc's benefit), sometimes enlarged by Mary, always an element of truth and were highly amusing.

Wendell took us in his car for a good tour of the city, including Rockefeller Center with its panoramic view of New York from the top of the R.C.A. Building. Rockefeller Center was also the headquarters of Time, Life and Fortune and Wendell showed us his office there. He had made good in New York and was happy in his work with Life Magazine.

We did some sightseeing on our own to such places as St. Patrick's Cathedral, Central Park and the new Guggenheim Museum, designed ^{by} Frank Lloyd Wright, where its first showing of modern art was opened the day before. With few exceptions, the pictures did not impress us as much as the very attractive interior of the building. On a base 100 feet in diameter, a gently sloping ramp spirals upward to form an art gallery with pictures on the outer circular wall more than a quarter mile long. The exterior of the building is also a massive spiral.

We had a week with the Montgomerys in the Boston area, first with Bob and Mary in Cambridge and then with Spen and Eleanor in Brookline. Bob and Mary were worried about her sister, Dr. Sara Jordan, a well known Boston physician in the Lahey Clinic, who was ill in hospital. We had known Sara and her daughter, Mary Stuart, in our Harvard days. Bob and Mary had two tickets for the new hit: "The Sound of Music" by Rogers and Hammerstein, starring Mary Martin. They took us to dinner at the Ritz before the show and wanted us to use the tickets. But we settled for Bob to take Helen and Mary and I took a taxi home. They know quite a few people at the fashionable Ritz and Richard Rogers had a table near ours.

The next evening Bob and Mary had some interesting people in for one of Mary's good dinners, the Dean of Engineering at M.I.T. (from Sweden, whom we had met before), the Canadian Consul and the head of Lloyds of London in Boston and their wives. The talk ranged over the Royal family, the Windsors, Anthony Eden, the Suez, world affairs and the Sacco-Vanzetti case on which Bob was publishing a book.

The next day we went to stay with Spen and Eleanor and in the evening they had a dinner party for us with Bob and Mary, Vera Fife and Beth Battles (whom we knew when we were at Harvard) and her husband Dudley Harmon. Bob and Spen together could always be relied on to make a lively evening. Both families gave us a really good time.

On our way home, we had another nice visit with Dorothy in Ottawa. When we were overseas, she moved into a third floor apartment in a house on First Avenue. Her nice new rugs and teakwood furniture made it very pleasant. She was working during the day but generally had friends we knew in for tea or dinner or we were all invited out.

On November 11th, the three of us joined the large assembly at the Armistice Day service in Confederation Square. In the afternoon, we saw the gorgeous Chrysanthemum Show at the Dominion Experimental Farm. Then Dorothy took us to the train for Calgary and gave us a couple of Agatha Christie thrillers for light reading.

In Calgary, we took a room at the Palliser, had a day or two with Brent and Elsie in High River and with the families in Calgary who all gave us a welcome.

We were in Vancouver for the next week or more, first with Don and Dione and then with Margaret and Bill, and their families. One evening we went with Mar and Bill to a meeting of the Clan MacLeod Society of Vancouver. As mentioned before, I was their delegate to the Clan Parliament at Dunvegan and at the meeting I gave an account of the Clan Parliament and showed some slides of the Castle and the Isle of Skye.

On Saturday, November 28th, we settled down in our own apartment in Victoria for "a quiet week-end". It was a great trip but we were glad to be home again.

We were welcomed home to Victoria by our friends there. Most of the men were retired but the women still had their work to do. Helen was soon back in the University Club Study Group and in the Uplands Group of First United Church where she was installed as leader. At Christmas time we spent a pleasant week with the families in Vancouver.

About the end of January, 1960, Brent and Elsie^{left} Vancouver by plane for a trip around the world and a visit with one of Elsie's friends in Australia. We had a talk with them in Vancouver by phone. Then on February 11th Kay phoned that her mother had a stroke in New Zealand and died a few days after on February 10th. Brent had her body flown back to High River where an unusually large funeral showed something of the community's high regard for her. We both were very fond of Elsie and admired her spirit. She had the stuff to make a go of things on their large farm and time for community affairs as well.

We both had flu in January and mine developed into loss of energy and wanting to just sit around and do nothing, which is what I would have done if it hadn't been for Helen. She arranged for us to see our doctor from time to time. Dr. Sinclair said it was the aftermath of flu and reaction from years of more strenuous life. He advised getting new interests as the quickest way out of it.

We bought an Argus projector and screen to look at our colored slides of the trip, the family and others from time to time. We also renewed our custom of getting together with Dudley and Agnes Simpson every week, also with Edouard and Margo Sonet and occasionally with others. The Victoria Lawn Bowling Club was across the street from us and I joined the Club and played in the mornings with two or three others.

In the spring (1960) Helen and I were invited to a ceremony at Miami University, Oxford, Ohio, in connection with the reburial on the campus of Helen's great grandfather, the first President of the University, the Rev. Dr. Robert Hamilton Bishop, and his wife, and also to the dedication of the Bishop Memorial Gates presented to the University by Constance Mather Bishop. The Mathers were a wealthy family and Constance's husband, Dr. Robert H. Bishop, IV, was a great grandson of the first president of Miami. A graduate of Edinburgh University, Dr. R.H. Bishop and his wife came to America in 1802 and became the first president of Miami in 1824. Constance invited us to a family dinner following the ceremonies. We were not able to go down but her brother, Philip Mather, and Helen's brothers wrote good accounts of the ceremonies and the family dinner with Constance.

On June 24th, we took the car to Vancouver to see the Huods and the Mac Leods and stay in one or the other of their houses while they or some of them were on holidays. For our fortieth wedding anniversary, the two families and Dorothy gave us an R.C.A. portable television set. It brought us a great deal of pleasure.

Dorothy was with us for the first half of August. Early in the year (1960) she became secretary of the Canadian Sports Advisory Council which involved a good deal of work. In the spring, she had sent us two lovely photos of herself taken for a television program on "Agricultural Graduates of U.B.C." Dean Eagles spoke of her as winner of the Wilfred Sedler Gold Medal and one of their outstanding graduates.

Bill was chosen by I.P.E.C. to go to Toronto for a year's experience in nuclear power plant construction and the whole family was moved at Company expense. It was a rather disturbing move for Mar. She had her tonsils out early in August and then had the responsibility of renting the house and taking the children east by train as Bill had gone ahead. We did all we could to help and the feeling of being useful was good for me. The day after Mar and the children left for Toronto early in September, we went back to our apartment in Victoria after ten weeks in Vancouver.

We slipped back into the quiet life of Victoria; a picnic or two in lovely fall weather, a chat with a few friends over a cup of tea, a Clan MacLeod meeting, the odd visitor from out of town and such like. At Christmas time, we were with Don and Dione and family in Vancouver and Dorothy was with Mar and Bill and family in Etobicoke. They phoned us on Boxing Day.

Jack and Win Teasdale were in Victoria for about a month after New Years (1961). (They were married in 1958 and were living near Okanagan Falls by Skaha Lake). With well-stored minds, they were good company. Both were fond of cribbage and we had some good games together.

Dorothy was on the Executive of the Canadian Badminton Association which met in Calgary in March and we were delighted to have her home for a few days.

During the year (1961) I put together information I had been collecting over the years to form our "Family Record". As mentioned before, Hattie gave me a good deal of material on the MacLeods and MacKays; Margaret Briers and Marion Ross in Victoria and Estelle Jenkins and the Mackenzie girls in Vancouver added to what I had about the Morrisons and Smiths. Helen did the typing and Dorothy mimeographed about two dozen copies of our "Family Record" in Ottawa the following year.

Mar and Bill offered us the use of their house for July and August, as their tenants were far from satisfactory financially and were told to leave. They left the house in good shape but the grounds had been sadly neglected. We got a good gardener to trim the trees, fertilize the grass and cut it several times. We cleaned out the rockeries and improved them ourselves. The municipality took that summer to tear up the streets in front and after many delays finally got the curbs in and the streets paved with blacktop. We had them do the driveway as a surprise for the Radds. The people on Belmont had flowering trees planted along each side of the Avenue and all the improvements gave the area a very attractive appearance.

Mar and Bill and Dorothy had a great trip to New York where their Uncle George invited them to be his guests in a fine suite in the Biltmore Hotel and the other Montgomerys in the city were good to them too. In July the Radd family went to P.E. Island for holidays and to see their Aunt Hattie in French River and the Lawsons in Charlottetown. They came home early in September and in October, Bill was appointed Project Engineer on the Peace River Development; Don was Project Engineer on the Burrard Thermal Plant.

These years of retirement had their edge of sadness too. Frank Briers died of a heart attack in 1960 (it was not his first). He seemed quite well when he and Margaret were in for tea shortly before. He was a very popular Fire Chief in Victoria; his large funeral in St. Andrews Presbyterian Church included the Mayor and dozens of city officials. Jim Love, who with his wife, Anah, generally spent a month in Victoria each winter, died in his car in Calgary early in the year. He was a P.E. Islander whom we had known for years and one of the best. In 1961, Ben and Janet lost their eldest child, Leslie, age 14, with some incurable kidney disease. Bobbie Ross died early in 1962; his funeral was in St. Andrews Church where a group of Mounties in scarlet uniforms paid their respects to a popular member of the Force.

One of Helen's best friends, Marguerite Sonet, who had more than her share of human ills, passed away in the fall of 1961. She was a devout Catholic, but five of her pallbearers, including myself, were Protestants. Margot had the grace and charm of the French at their best, was kinness itself and had a host of friends among whom Helen had a special place.

In the summer of 1962, Don and Dione with Michael and Tammy, flew east for their holidays. As usual with our family, they were guests of Helen's brothers in New York and Boston. Dione's brother, Arnie, was then

with Macmillan, Bloedel, Ltd. in the East and he and Maxine, with their five children, were living near New York. After a good time with all the relatives, Don and Dione took in the sights of Washington before driving by rented car to the Maritimes and then on to P.E. Island to see their Aunt Hattie and the Lawsons. They had a day or two with Dorothy in Ottawa on their way home after a month in the East. While they were away we were in their house, then moved to the Ruggs' when they were on holidays at Saturna Island.

Among the people we saw and the things we did that summer: we had lunch with Bill and Mary Taylor in their lovely new home, the recently built Principal's house of Union College, and they showed us through the extensive addition and alterations being made in the College; I had an afternoon with Frank Noskes and Lorne Kersey in the Electrical Department, saw the plans for a large new Electrical Building and had tea with them and others from the Department in the new Faculty Club (my first time there); we had a most enjoyable afternoon and supper in Blythe and Violet Eagles' beautiful garden with some fifteen or twenty old University friends to mark Alex Brannikoff's retirement from the Civil Department - Fred and Lilian Muir drove us there and back to Don's. We were home in Victoria before the end of August.

I wasn't very enthusiastic about Helen's Vauxhall, so in the spring (1963) we looked over the field of 1963 compact cars and Helen bought a Chevy II, \$300, for about two-thirds cash and one-third Vauxhall, (total cost with accessories approximately \$3000). The turquoise colored Chevy II automatic with white wall tires was a smart looking little car and a pleasure to drive.

All the family got together that spring in March when Dorothy was in Vancouver for a meeting of the Canadian Badminton Association. Later in the summer we went to Vancouver and stayed for nearly two months while the families were on holidays. We did a bit of gardening, repaired some furniture, went to see Vancouver friends and had others in for lunch, tea or dinner. Frank Noskes was in hospital for some weeks with heart trouble; we went to see him there and after he got home about the middle of August. The new Electrical Engineering Building was finished that summer and Frank had probably been working too hard. It is a wonderful building with its 80,000 square feet of floor space on four floors and a lot of new equipment. Frank had Don Moore show me through it and take me to lunch in the Faculty Club with Fred Muir and Wally Mullinger. At the same time, Helen had lunch with Margaret Noskes and Lilian Muir.

We were doing more that summer and I was feeling better than I had been for a long time. Dione thought we should buy a house in West Vancouver and she and Mar found several for us to look at. But they didn't appeal to us, perhaps because we compared them with 1529 Western Crescent. We did feel, however, that we should be living near the two families and that we should move over while still well able to do so. With this in mind, we looked at some two bedroom apartments and were much taken with the appearance and location of Bayside Towers on a corner of Bellevue Avenue and 21st Street. We rented number 402, Bayside Towers as from the middle of October for \$170 a month plus \$8.00 for an undercover garage.

Then we began preparations for another move. We sold about \$500 worth of furniture and household things, mostly to Mrs. Wisner who had an antique shop. We had to sell our lovely old solid mahogany dining room table, after forty years service, as it was too large for the new apartment and none of the family had room for it. We gave some things to the family and to friends and Goodwill and more books to Victoria University. We gave my mother's little spinning wheel to Mar, grandfather's clock to Don and offered the old desk (the "secretary") that Helen's great grandfather made, to Dorothy but she had no place for it then so we kept it and sent her a shipment of our good china.

Our friends in Victoria gave us some farewell parties and were sorry to see us leave. The Uplands Group of church women gave Helen a lovely cup and saucer at a special party for her. The Clan MacLeod Society gave us a MacLeod Crest Shield on the wall as a reminder. The Society lost several MacLeod families who moved to Vancouver about the same time. Ken and Faith, and John and Jean MacLeod with their families moved with the Power Commission staff after the amalgamation of the B.C. Electric and the B.C. Power Commission to form the B.C. Hydro. Chuck MacLeod took a new position in Vancouver and he and Evelyn with their son, Robin, left Victoria too. At the Vancouver Clan MacLeod Society meeting in November, the MacLeods who had moved from Victoria were guests of honour and given a hearty welcome.

Our move went very smoothly. Allied Vans did the packing and moving and they had most things in place at #402 Bayside Towers by October 10th. We came over with our car on the 8th, were welcomed to the apartment by Mar and Di with flowers, had dinner with Don and Diane, stayed two nights with Mar and Bill and moved into the apartment on the 10th. It was lovely weather and the following day we had tea on the balcony in a sunny 70 degree temperature.

The apartment is small compared with the one we had in Victoria (less than half the size) but it is comfortable and convenient. We have wonderful views of the mountains, the sea, the ships going in and out of the harbour, the sunsets over the water and, at night, the city lights across the Bay. The library, the church and Memorial Park are only a couple of blocks away and most important of all, the two families are near where we can see them often.

A week after we moved, one of my former students, Dr. Harry Ellis, phoned and then wrote that the Vancouver Section of the I.E.E.E. were planning to establish a scholarship and name it in my honour, if I approved, which I did with thanks and appreciation. The following is from a later U.B.C. Calendar where it appears among dozens of other awards:

"Hector J. MacLeod Scholarship - The Vancouver Section of the Institute of Electrical and Electronic Engineers, in honour of Dr. H.J. MacLeod, Dean Emeritus, Faculty of Applied Science, offers annually in recognition of his pioneering efforts in education and science, a scholarship of \$350 to a student registered in Electrical Engineering. The award will be made to either an undergraduate or graduate student who has attained high scholastic honours and demonstrated initiative in his chosen field."

It was ten years since I had been active in the Vancouver Section of the Institute and it was gratifying to be remembered in this way.

About the same time the University Club Study Group in Victoria to which Helen had belonged sent her a lovely pot of mums and a card with all their signatures which pleased her very much.

In the spring of '63, Dorothy was appointed by the Department of Agriculture to the Data Processing Service as a technical officer in systems and procedures. This was not a sudden change from library work. Over two years before, she was one of two selected from about fifty applicants for a two year course leading to higher administrative posts. On leaving the library, the staff had a lovely picnic for her and presented her with a silver dish and a silver teapot to match the cream and sugar set given by the Athletic Club in Summerland when she left the Experimental Station for Ottawa. In the two years she was moved all through the Administration Branch of the Department. In the Data Processing Service part of the course, she became interested in business machines and was very pleased with the permanent appointment in that service.

In the spring of '61 as part of the training course, Dorothy attended a course in Government Administration put on by the Civil Service Commission at H.M.C.S. Hochelaga in La Salle, Quebec. There she was made secretary of the class and took part in ping-pong and bowling competitions. There too she met Don Forsyth, Executive Assistant to the Air Commodore in charge of construction, R.C.A.F., who was also taking the course and they sometimes had lunch together. Don was in the R.A.F. for over four years during the war as a Squadron Leader, was shot down a couple of times, got back to England once and was with the Underground in Paris until the arrival of the Allied Armies.

Dorothy and Don continued to go around together in Ottawa which "made life very pleasant" according to Dorothy. Then in September, she phoned from Ottawa the exciting news that they were going to be married late in November. Don spoke to us also and they both seemed very happy. He wrote and suggested a Vancouver wedding but they decided it would be better to be married in Ottawa and spend their holidays with us and the family in Vancouver in the spring. He would like to have been at the wedding but I did not feel up to travelling east, especially at that time of year.

Dorothy's good friends, Adah and Carl Crawford were wonderful in many ways and the reception was held at their home after the ceremony in Rideau Park United Church, November 30th, 1963. By all accounts, it was a lovely wedding. The photographs taken at the church and the colored pictures taken by Carl Crawford at the reception were exceptionally good.

After the reception, Don and Dorothy drove to Montreal, stayed at the Queen Elizabeth Hotel for a few days and then drove to the Royal York in Toronto. They very thoughtfully phoned us from Montreal. In Toronto they had dinner with Don's two brothers and their wives. Frank was with the Canadian Press and Dave was then Secretary-Treasurer of the National Trust (later appointed a Vice-President). Dorothy and Don rented a nice apartment in the Faircrest, #517, 1833 Riverside Drive, Ottawa, not far from the Crawfords. We were delighted to hear how well Don measured up to Dorothy's exacting standards and his highly complimentary remarks about Dorothy pleased us immensely.

About a week before Christmas, Dame Flora MacLeod arrived in Vancouver to begin another series of visits to the Clan MacLeod Societies in Canada and the United States. She had written the Earle MacLeods that she would like to see Helen and me quietly and we invited them to bring her over for tea on Thursday (December 21st). We had known the Earle MacLeods for some time (he was an Air Commodore, retired) and their son John was a young engineer in the B.C. Power Commission when we were there. Dame Flora had been to India, Burma and Japan. Always an interesting and entertaining visitor, she told us stories and impressions of these countries and the people she met there, as well as news of her family, Dunvegan and the Clan. Knowing her interest in everything that had to do with the Clan, I gave her an article from the University of Alberta Alumni's "Trail" with a picture of the Chancellor's chair of the U. of A. in Calgary. The crests of the MacLeod Clan and of the MacKenzie Clan are carved on this chair. The reason for this goes back to 1875 when a Mounted Police Post was established at the junction of the Bow and Elbow rivers. This new post was named "Calgary" by Colonel James F. MacLeod of the North West Mounted Police in honour of the home of his MacKenzie cousins on the Isle of Mull in Scotland. We had a delightful afternoon with Dame Flora and the Earle MacLeods and were pleased that she wanted to spend one of her two or three afternoons in Vancouver with us.

In the evening there was a large Clan reception for Dame Flora at Dr. and Mrs. Ewen MacLeod's home. We went with Margaret and Bill. The Chief had her piper, Sandy Gordon, on the trip and he added to the evening's entertainment with a couple of lively airs on his bagpipes. Mar had quite a chat with him and found him an interesting Scot. Dame Flora was another distinguished visitor to Vancouver to be interviewed on the popular C.B.U.T. television programme, "The Seven O'Clock Show".

Christmas Day (1963) was warm and sunny and the five grandchildren had lunch on the patio at Don and Dione's. Bi's Aunt Mary made up an even dozen for a lovely Christmas dinner at Mar and Bill's in the evening. There were other parties during the holiday season and we appreciated being in West Vancouver and not having to travel from and to Victoria.

After we moved to Bayside Towers, we started going to West Vancouver United Church, less than two blocks away, and transferred our membership there. It is a fast growing church with a large proportion of younger people and Mr. Oliver, the popular minister, is a good preacher. I still remember a typical remark of his made on Thanksgiving Sunday soon after we arrived: "Be thankful - it will do you good". The Don MacLeods go to the same church, also the Brian Carrothers, the Gordon Tallmans, the Klincks and Betty Carrothers after she moved to a West Van apartment. Helen joined one of the United Church Women's groups.

Early in December, Frank Koukes phoned Helen that I would be getting a letter next day and told her what it was about but not to tell me before the letter came. Helen can keep a secret and didn't know till the letter arrived. Here is a copy of it:

"The University of British Columbia
Vancouver 8, Canada.
Dear Leon MacLeod,-----

Office of the President,
December 5, 1963.

I am writing on behalf of the Board of Governors to ask you if you would agree to our naming the new Electrical Engineering Building in your honour.

I know that this would bring a great deal of pleasure to your former colleagues in Electrical Engineering, to the Faculty of Applied Science, and indeed to the whole University. The Board members were enthusiastic in their support of the suggestion when it was made to them.

We would all like to have on the campus to which you gave so much of your life, a permanent memorial to the qualities of leadership, knowledge, good taste and wisdom which are so evident from your achievements.

We propose to name the Electrical Engineering Building the "Hector MacLeod Building". Would you please be good enough to let us know whether you are agreeable to this?

It is probable that we shall be opening the building on February 3rd, but I have no doubt that Frank Noakes and David Myers will be in touch with you about this.

Yours sincerely,
Geoffrey Davies.
G.O.B. Davies,
Secretary to the Board of Governors.

Dean Emeritus H.J. MacLeod, O.B.E.,
#402, Bayside Towers,
2085 Bellevue Avenue,
West Vancouver, B.C."

Needless to say we were both delighted and I replied to the effect that no honour would please us more. Dean Myers also wrote a very nice letter on behalf of the Faculty of Applied Science. The opening date was set for February 3rd at eight o'clock in the evening. Frank Noakes, with whom the idea originated, gave us details of the arrangements for the opening and said that I was to unveil the plaque and declare the building officially open. Invitations were sent out and a couple of days before the opening we received an advance copy of the nicely printed programme. Mar and Bill and Don and Di had invitations and on February 3rd (a fine evening) Don drove the six of us over to the building in good time for them to get seats in the main lecture room where the ceremony was to take place. It was connected by closed circuit television to two other lecture rooms which were also well filled. Helen and I went to the Staff Common Room where the platform party and wives assembled. It is a very attractive room, well supplied with comfortable chesterfields and chairs and my portrait, painted by Charles Comfort, and nicely framed, is on the east wall. One of the staff members looked after the ladies and showed them to their reserved seats.

The platform party was in academic dress and it was one of the few times that I have worn the colourful Honorary Doctor of Science hood, cap and gown. My seat on the platform was between President John MacDonald and President Emeritus Norman MacKenzie who was on my right. Dr. MacDonald presided, gave the introduction and called on the Hon. Leslie Peterson, Minister of Education, who gave the main address. A few remarks by Dean Myers were followed by Dr. Noakes' introduction of myself. All these speakers were highly complimentary and extremely generous in their remarks about my work and influence in the University and Mr. Peterson made special reference to my years of service to the province as a member of the B.C. Power Commission. The last paragraph of Frank's introduction was as follows:

"In Dr. MacLeod we have a man who from the early days in Western Canada responded with insight to the challenges of a pioneering country. Being

a person of exceptional quality, his influence over a forty-year academic career was profound. His former students occupy prominent positions in industry, education and government service in Canada and elsewhere. All who have had the good fortune to know him in their formative years were made better men through his kindness, good taste and excellence. These same qualities endeared him to his University colleagues. His friends are legion; for we are many."

And here is a copy of my brief remarks:

"Mr. President, Mr. Minister, Mr. President Emeritus, Distinguished Guests, Ladies and Gentlemen:

First I wish to say a word or two of appreciation and thanks for all the kind things said in my favour this evening. I would just like to add that I was extremely fortunate in the people under whom it was my privilege to work; fortunate too in my colleagues and in the opportunities that opened up for me to walk into. In the words of one of the ancient poets: "The lines have fallen unto me in pleasant places". And now to have this new home of the Department of Electrical Engineering carry my name surpasses them all. My family and I shall always be grateful to this University.

On looking back, it seems to me that the best thing I did for the Department was to get Dr. Frank Noakes to join it and for good measure I add the name of his able colleague, Dr. Don Moore. Since then, they have attracted other kindred spirits to build up a strong department. They even captured a Dean.

If you wish to see something of the growth that has taken place in the Department in the past ten years, look around you as you go through this building tonight. And it is good to be assured by former speakers that interest in the electron will not overshadow the importance of the individual.

This wonderful building and all that it represents is another expression of faith in the value of education and in the thrilling achievements of this great and growing University.

With some such thoughts as these in our minds, Mr. President, Ladies and Gentlemen, I have the honour to unveil the plaque and declare this building officially open."

The metal plaque now on the wall in the main entrance to the building gives the following information:

HECTOR MACLEOD
BUILDING

This building was opened February 3, 1964
For Teaching and Research in Electrical Engineering
by

DR. HECTOR J. MACLEOD, O.B.E.
Head of Electrical and Mechanical Engineering, 1936-1953
Dean of Applied Science, 1950-1953

Dr. Phyllis C. Ross -
Chancellor

Dr. John B. MacDonald
President

Dr. David M. Myers
Dean of Applied Science

Dr. Frank Noakes
Head of Electrical Engineering

Architects: Thompson, Berwick & Pratt

A couple of days after the opening, we had Godfrey and Muriel Burr for lunch. They had come over from Victoria especially to be present at the opening. As mentioned before, Godfrey Burr was a demonstrator in Electrical Engineering when I was a student at McGill and they had moved to Victoria after his retirement. Helen was at their golden wedding reception some time before we left Victoria.

And speaking of golden anniversaries, 1964 was the golden anniversary of Helen's graduation from the University of Alberta and mine from McGill. Helen had written President and Mrs. Johns in reply to their invitation to a reception for the class of 1914, expressing her regret at not being able to be present and mentioning the pleasant memories we have of our long stay at the University of Alberta. Dr. Johns read the letter at the Alumni Banquet where members of the class were guests of honour. The Alumni Association sent her a golden ash tray engraved with her name, the University Crest and 1914.

In April (1964) Blythe and Violet Eagles had an evening party for retired U.B.C. faculty members and their wives, who had been at the University before 1939, to meet President and Mrs. MacDonald. There were over sixty there, including Dr. and Mrs. Klinck who came for part of the time. As usual at the Eagles', it was a lovely party and some of those present we had not seen for years. C.B. Wood (Registrar retired and always known as C.B.) very kindly took us over and brought us home.

We met a somewhat younger group of friends at a Sunday afternoon tea given by Brian and Jean Carrothers for Freddie and Jane who had been married some time before. Don and Di and Mar and Bill were there too and among other guests were Charlie McLeod and his wife, the former Jean Skelton, the popular teacher of English at University Hill School when the Carrothers and MacLeods were students there.

Dorothy and Don (Forsyth) arrived from Ottawa on a bright sunny morning early in May. It was wonderful to have them with us and get to know Don and the longer we knew him the more we liked him. The Sunday they came, Mar and Bill had the four of us for dinner and the Don MacLeods for dessert and an enjoyable evening with all the family together. Don Forsyth is good in conversation, either serious or light and humorous, has a fund of stories and tells them well.

We let Don and Dorothy have our car while they were here and they kept on the move, either with members of the family or by themselves. Among other things, they had a day at the University, were shown through the Hector MacLeod Building and had lunch at the Faculty Club. They had a day out at the Lambert farm and on another took Nona and us for lunch at the Bayshore Inn. We went with them to see some of Dorothy's older friends and ours.

Don knew the Peppi family in Ottawa and he and Do went to see the ones who run Peppi's Restaurant in West Vancouver. There they ordered an Italian chicken dinner for eight (with all the trimmings and various kinds of wine) for the following evening when they took Mar and Bill, Don and Di and us for a delicious dinner served with special attention. Some days before, they had taken their five nieces and nephews out for dinner which was a great treat for them.

Thus Dorothy and Don's two weeks visit went by in a hurry and we, with the two families, saw them off on the C.N.R. train. We were pleased that Dorothy was so happily married.

In June we took the car to Victoria and put up at a good Hotel for ten days. For one thing, Helen wanted to go to the 1964 Pi Beta Phi Convention in the Empress Hotel which was attended by members from all over the continent. When the University of Alberta Alpha Chapter was formed, the girls asked Helen and Hazel McCuaig to join and they gave the girls a good deal of help. Helen was also in the Pi Phi Alumnae Club in Vancouver. Hazel and some two dozen Alberta Alphas were at the Convention and Helen had a good time meeting many old friends again. She and Hazel were head table guests at the Old Timers Luncheon and at the Alberta Alpha table for the final banquet. The many members from the States were delighted with Victoria and the Empress and the Convention was a great success.

We had time to see Victoria friends too; among them a couple of afternoons with Agnes and Dudley Simpson, two evenings with the Stansfields and another with my cousins there. We went to see Edouard and Jean Sonet both in hospital (they had been married earlier in the year). We came home near the end of June from a pleasant trip.

We had several out of town visitors that summer. Glen and Eleanor's daughter, Marnie, and her husband, Bill Flook, came for a couple of days with two of their five children. Bill had a good position with the Du Pont Company. The Flooks are all fond of skiing and boating, have a large boat of their own and are a fine, wholesome family. Ernest and Frances and their two boys were in Vancouver for a few days. Ernest was doing well in his work with the Calgary Power Company. Among other visitors were the Stansfields, the Gordons and the McCuaigs. In the spring, Kathleen Morrison stayed with us for a few days.

Jack Tames and Clarence Laverty came over for an afternoon. They had both been students of mine in Alberta away back in the twenties. As mentioned before, Jack was District Manager of the Westinghouse Company, Vancouver. Clarence was General Electrical Superintendent of the Anglo-Canadian Pulp and Paper Co., Quebec City. Before coming back to Vancouver, Jack had been for several years District Manager in Montreal and he and Clarence had a lot of first hand information about life and problems in the province of Quebec. We had a great time talking about the "good old days" and other electrical students who graduated before I left Alberta in 1936 and how well many of them had done. I have mentioned some of them already but will add a few more to the record (with their class year in brackets): Chris Ritchie (35) President and General Manager of the Montreal Engineering Co., Ray Grout (34) President, Shawinigan Engineering Co., Montreal, Don Bryden (28) General Manager, Winnipeg Electric, Jack Taylor (28) Chief Engineer, Ohio Brass Co., Royce Craig (33) Chief Engineer, B.C. Sugar Refining Co., Cody McPherson (32) Vice-President Northern Utilities, Jack Ford (34) General Manager, Canadian Utilities, J.A. Burke (34) Vice-President, Shawinigan Engineering Co., Jack McMath (36) Head of the Electrical Engineering Dept. Manitoba University, Jim McGregor (29) Chairman, Alberta Power Commission, and in the Calgary Power Company: Fred Gale (34) General

Manager, D.A. (Happy) Hansen (28) General Sales Manager and Tom Stanley (32) Production Superintendent, Homer LeBourveau (24) Manager of Operations, Jimmy McMillan, (24) Purchasing Agent,; and many others holding senior positions in their respective companies.

Early in November (1964) Don took us to a party at Margaret and Bruce Mackenzie's for her father, George Winter's 90th birthday. George looked about the same as he did at 70 and as alert as ever. He still drove his car though not to the business section of the city. He knew most of the old friends at the party.

In March (1965) the Annual Meeting of the Canadian Electrical Association was held in the Bayshore Inn. Over a dozen of my former University of Alberta students were there and Frank Nokes and Wardlaw Porteous arranged with them to have a dinner for me in a private dining room at the Bayshore Inn. Frank and Wardlaw came for me in the afternoon and before dinner I had a chat with two or three who had to go to committee meetings and could not stay for dinner. Harry Thompson, then President of the Calgary Power Company whom I have known from student days at McGill, was invited to the dinner too. We had a wonderful evening, talking about old times at the University of Alberta, what former students were doing and other things. There was some talk about Jim MacGregor's books and I mentioned one or two I had read. Jim asked if I had read "NorthWest of 16" and when I said I hadn't, he promised to send me a copy. When it came, it was inscribed: "To H.J. MacLeod with the very kindest regards, J.G. MacGregor." It is the story of his parents and family on a homestead some sixty miles from Edmonton in pioneer days and the story is well told. I did appreciate the evening and seeing them all again.

Early in April, John MacEachran arrived one afternoon by bus and fortunately found us in. We had tea and persuaded him to stay for dinner. He seemed very well for his age (88) but his eyesight was poor. As usual, he was in good spirits and had lots of news. I have always been grateful to John MacEachran for pushing me into applying for a British War Scholarship.

Later in the year (1965) I became one of the Convocation Founders of Simon Fraser University on the invitation of the Board of Governors of the University.

On one of our visits to P.E. Island, Battie gave me a sextant from ^{one} of the old sailing ships that put to sea from New London harbour in former days. In December (1963) I started using it on the balcony of our apartment to get graphs of the sun's elevation in degrees plotted on a standard time base for the equinoxes and the 21st of June and December. The time of sunrise and sunset could be obtained from the daily paper. The far shore of English Bay is about four miles from our apartment and, with a slight correction, could be used like the horizon at sea. This led to a review of the various ways of measuring that mysterious thing called Time and of the mechanics of the solar system and the work of Copernicus and his followers down to Isaac Newton, whose master mind explained it all. It was a subject of interest during 1964.

When we were up at Don's in '65, I got my grandfather's clock out of storage to see what had to be done to get it going again. My Dad

left it to me in 1925; I believe it has been in the family since about 1630. It was made and sold at Annapolis, Nova Scotia by Butler and Henderson, under patent of Eli Terry in 1797. It stands about thirty inches high, has all wooden wheels except the brass escapement wheel and is driven by two weights which run down in about thirty hours.

The case was made of mahogany and mahogany veneer. In Victorian times it was coated with black lacquer and touches of gilt. In 1926, I removed these, repaired the case and refinished it with oil and varnish to show the mahogany again. I intended to repair the works and get the old clock going but never got around to it.

At Don's, I took the works apart. Three cogs or teeth in one of the large wooden wheels were broken off, the pendulum suspension was broken and a few other parts in need of repair. We brought it down to our apartment and I worked on it from time to time. I cut a section out of the large wooden wheel, replaced it with hard wood and cut new cogs in it. They had to be carefully made to match the others. The pendulum suspension had been attached at its upper end by a short piece of very thin steel ribbon about a quarter of an inch wide. I got a similar piece from a Swedish jeweller in the Village. After making the repairs, cleaning and oiling the works and putting graphite on the cogs, I got the old clock going again.

The cast iron gong on which the hours were struck sounded dull. It was replaced by a brass bowl of about the same shape and size that we found in a second-hand shop. Now when the clock strikes the hours, it has a very pleasant tone. The figures on the dial were all worn away except for the outlines (from years of cleaning perhaps). I put them on again with India ink and sprayed the whole dial with clear artists varnish. The two little spires on top of the clock were made by Gordon Tallman. I got the pattern for the spires from a picture of a similar clock and holes for them indicated that this clock once had them too. Finally I rubbed down the case with fine emery cloth and water and put on a coat of clear satin varathane. After all these repairs, the old clock showed little sign of age and looked remarkably well. Its quiet tick-tock is a gentle reminder that time is passing by.

I have always enjoyed doing carpenter work and machine shop work, making things and giving them a good finish. Among other things, in 1965 I refinished our eight dining room chairs, replaced a lot of webbing in the seats and recovered them with new material (a first class job, if I do say it myself). I have since done the same for Mar and Dione in addition to other things that fall to the lot of a handyman.

June 24th, 1965, was our 45th wedding anniversary and a lovely warm, sunny day it was. The apartment was gay with roses, carnations and mums from the family. In the evening, Mar and Bill and Don and Di took us for a delicious dinner at the Coach House Inn, a very lovely celebration. Several warships, anchored in English Bay for the Vancouver Festival, were illuminated that night and brilliant fireworks bursting in the sky above them seemed to celebrate our wedding anniversary too.

Helen and I looked back over the years and realized again how fortunate we had been, how much there was to be thankful for and how

little to regret. Of course we had our worries, as everyone has, but they were not overwhelming and many have been forgotten. We have had a happy life together, good friends, pleasant work and more than our share of recognition. Most important of all we are thankful for our family, very proud of them and their way of life. Besides their regular work, they have community interests.

Margaret has been busy with the Brownies for some years, is a Brown Owl, has her own pack and with some assistants, has been in charge of Brownie camps from time to time. She enjoys the work and Brownie mothers have shown their appreciation of it in various ways. Christy is in the Guides, Peg in the Brownies and Jeff in the Cubs. Bill was Captain of the 6th Field Squadron, North Vancouver and then Captain and Adjutant of the 7th Field Engineers Regiment until they were disbanded in the reorganization of the Canadian Militia at the beginning of this year (1965). He is Secretary of the Vancouver Branch of the Military Engineers Association of Canada, is very much interested in military history and biography, is a good shot and a member of the Capilano Rod and Gun Club where he practices rifle shooting.

Don and Dione are members of the Hollyburn Country Club and are interested ⁱⁿ swimming, skating and tennis there. Don is active in the organization of the twelve and under boys into hockey teams, arranging for playing schedules and coaches and takes part in coaching himself. Michael is in one of the teams and also played in the Stanley Park and the Jericho tennis tournaments. Tammy won a medal for swimming in a city-wide meet at Hollyburn Club. Dione is a member of the Junior League. For several years she put in one day a week working in their Thrift Shop over town and this year has been taking a course in Art and acting as one of the guides for school classes on their visits to the Vancouver Art Gallery.

I have already mentioned Dorothy's work with young people of the Okanagan Valley in tennis and badminton and on the executives of Badminton Clubs and Associations in Summerland, Ottawa and Ontario. She is still Secretary of the Canadian Amateur Sports Federation which involves a good deal of work. Donald is interested in football and hockey and is a member of the Ottawa Rod and Gun Club. In spite of their very active life, he and Dorothy take time to give pleasure to their elderly friends and relations and to keep in touch with us by letter and telephone.

The grandchildren are growing up and they are one of our chief interests now. They are all doing well in school and we look forward hopefully to sharing with them more of our interests and experiences and hearing of theirs.

These reminiscences have extended far beyond what was originally intended and this seems an appropriate time to bring them to a close. Long as they are, many friends and events have not even been mentioned. Neither have the marvellous achievements in science and engineering nor the rather appalling problems now facing the human race. These also have been of interest and concern to us and it is probable that they are not unrelated.

But when we see such things as the television series "Reach for the Top" and marvel at those teams of High School students with their alert minds and wide range of knowledge, we have hope for the future. It is the best that really counts.

"Things I Remember" should have been "Things We Remember" for Helen has had far more to do with it than typing. Her diaries since 1934 have recalled many events and fixed the dates of dozens of others. In addition, the content and wording have often been the result of discussion between us, so the making of this "volume" has turned out to be another of our joint undertakings.

MILITARY SERVICE RECORD of HECTOR J. MacLEOD

1. Trooper in the 15th Light Horse, Alberta, 1910.
2. Sergeant, McGill Contingent, C.O.T.C., 1912-1914.
3. Qualified for Certificate A (lieutenant) C.O.T.C., May, 1914.
4. Appointed O.C. Alberta Contingent C.O.T.C. with rank of Captain, January 11, 1915.
5. Attached to 51st Battalion, C.E.F., for training at Sarscee Camp, May 26, 1915. Qualified for rank of Captain during the summer. Commission as Captain, #36204, dated December 6, 1915.
6. Appointed O.C. of "C" Company, 196th Western Universities Battalion, C.E.F. with rank of Captain, April 17, 1916.
7. Qualified as Field Officer and promoted to rank of Major at Camp Hughes, October 19, 1916.
8. 196th Battalion embarked for England, Oct. 1916. In England most of Battalion sent to Officer Training Schools. Remainder to 19th Canadian Reserve Battalion, January 1, 1917. Appointed Major in 19th Canadian Reserve Battalion at the same time.
9. Double spiral fracture in right leg while on duty, February 14, 1917.
10. Appointed Temporary Captain in the Royal Garrison Artillery with effect from October 20, 1917, (London Gazette, Jan. 11, 1918.) To Artillery School at Horsham, September 15th and after to a Battery Commanders course at Lydd and firing practice at Salisbury Plain.
11. Embarked for France, January 31, 1918. Attached to 93rd Siege Battery, R.G.A. as from February 6, 1918 (Heavy Artillery XVIII Corps Orders - 9-2-18). Recommendation: "Has recently been through Battery Commanders course and is recommended for command of a battery after a short period as Second-in-Command in the field to gain experience". (112/Artillery/3896).
12. Posted to 118th Siege Battery, R.G.A. as 2nd in Command with effect from March 3, 1918. (H.A. XVIII Corps S/5/35/ 13-3-18).
13. Appointed A/Major while commanding a Siege Battery as from January 30, 1919. (London Gazette, July 11, 1919).
14. Relinquished temporary Commission as a Captain, R.G.A. as from July 9, 1919 and to retain the rank of Captain, as per War Office letter MC/1786 (M.S.4.E.)
15. Embarked for Canada, July 25, 1919.
16. Canadian War Service Badge with Certificate, Class "A", No. 179394, issued to Major Hector John MacLeod, for service in France.
17. Promoted to the rank of Lieutenant-Colonel and to command of the University of Alberta Contingent C.O.T.C. on reorganization of the Contingent, with effect from the 1st December, 1920. (The Canadian Gazette of June 4, 1921).
18. Relinquished command of the U. of A. Contingent C.O.T.C. in the spring of 1924 with the rank of Lieutenant Colonel.

In World War II, in charge of the National Research Council's work on ship protection on the West Coast in connection with the Royal Canadian Navy. Awarded the O.B.E. in June, 1943. Citation: "For valuable public service in connection with scientific research".



HECTOR JOHN MACLEOD

In the Dean's office, Faculty of Applied Science, U.B.C.